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Opinions were gathered from college faculty and industrial employees as to the number of college semester hours they felt they could take while employed full time. The sample included 268 randomly selected faculty members and administrators from seven universities in the western states, and 175 industrial personnel of eight firms in the area. Two opinionaires were devised, one for universities and one for industry. A Fisher's t for uncorrelated means was used to determine the significance at the .05 level. Roughly one-fourth of the university faculty members had no time for courses; the rest thought they could take an average of 3.5 semester hours without adversely affecting full time responsibilities. About 80% felt that all tuition should be free to the faculty. The industrial personnel felt they could devote 8.7 hours per week to continuing education and felt the company should pay three-fourths of the cost. A higher percentage of university faculty members than of industrial employees were working toward advanced degrees, but both devoted about the same amount of time to the job and community. More industrial personnel attended noncredit classes. (A bibliography and copies of the questionnaires used are included.) (author/nl)

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CONTINUING EDUCATION: A STUDY OF OPINIONS OF UNIVERSITY FACULTY AND INDUSTRIAL PERSONNEL

by

Bill J. Brisco

A
Project Report
Submitted to the Department
of Adult Education and Instructional
Services and the Graduate School of the
University of Wyoming in Partial Fulfillment of
Requirements for the Degree of
Doctor of Education

University of Wyoming
Laramie, Wyoming
March, 1968

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by the Graduate School of the
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in partial fulfillment of the requirements
for the degree of Doctor of Education

Robert H Bruce
Dean of the Graduate School.

Date March 21, 1968

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CHAPTER I

INTRODUCTION

Man is living in the excitement of a great explosion of knowledge. On the one hand he counts his blessings of creature comfort, better health, longer life, and a higher standard of living; and on the other, looks with dismay at a multitude of crises which have been created by this knowledge.

More pragmatically, he is faced with the problem of personal obsolescence. Within a period of ten to thirty years a general practitioner in medicine is obsolete unless he keeps up with new developments.[1] In fact, the medical profession has continually stressed the need for personal and professional growth through any legitimate means, and to this end, practicing physicians and others in the medical profession are made aware of college courses, seminars, conventions, and similar educational activities which are designed especially for them and conducted relatively near their place of practice.[2]

Jobs of blue collar workers are being liquidated by man's "machine." But the promise of this industrial phenomena is for new and different opportunities to those who can and will educate themselves--a retraining process.

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[1] T. V. Woolev, "Continuing Education Meeting the Practitioner's Need," Journal of American Dental Association, 72:138-140, May, 1966.

[2] Course listings are published in each August issue of The Journal of The American Medical Association. In 1965 and 1966 there were 1,641.

One of the basic tenets of adult education is that a person should not stop learning during his lifetime.[3] Formal education may be terminated at any point along the line, nevertheless education continues--mostly in the school of "hard knocks." New technology and the changing demands of the present time have ushered in the need for more adequate training on a continuing basis.

While the most obvious need for education and retraining is among unemployed groups, faculties of colleges and universities also are under pressure to engage in educational pursuits for personal and professional improvement. Some of the indirect pressures which are prime movers of college people are succinctly illustrated in Occupational Briefs:[4]

> Promotion is contingent, for the most part, on continuous study. Those with higher degrees advance more rapidly. Most colleges expect teachers to make a name for themselves by publishing articles and books or by doing significant advanced research. . . .

A university usually has some portion of its faculty members attending classes in residence. For instance at George Washington University[5] in Washington, D. C., during the fall of 1965 there were twenty-six faculty members enrolled in credit courses. Also, at the University of

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[3] Gale Jensen, A. S. Liveright, and Hallenbeck, Editors, Adult Education, Outlines of an Emerging Field of University Study, Adult Education Association of the U. S. A., p 14, 1964. See also: Richard K. Morton, "The Road to Learning," Improving College and University Teaching, 12:197, Autumn, 1964.

[4] College Teachers Occupational Briefs on America's Major Job Fields, Science Research Associates, Inc., All, 1962. See also: Handbook for Faculty Members of the University of California, pp. 55-57, February, 1963; Mark Van Doren, Liberal Education. Beacon, 1949, pp. 175-176.

[5] Personnel Office, George Washington University. Washington, D. C. Fall, 1966.

Wyoming[6] in the fall of 1965, eighty-five university faculty members were enrolled in credit courses, 25 of whom carried 10 or more credit hours. Some were working on doctorate programs and others were enrolled in courses for diverse reasons such as hobbies, personal development, and learning for its own sake.

Out of concern for the relatively large number of faculty members taking 10 or more credit hours, the Personnel Office at Wyoming made a small, incomplete study of course concession and load permitted faculty members during the same year. Four universities had been contacted for the study. From the results some guidelines were to have been established for use in regulating the number of semester hours a faculty member would be allowed to take. Findings were incomplete and limited. However, the present writer became intrigued with the notion that traditionally colleges and universities have adopted policies regulating the number of credit hours faculty members should take. Research could indicate what might be a reasonable limit or maximum number of credit hours allowable.

Personnel officers of six universities used in the present study were asked to supply information on the number of faculty members engaged in credit courses in the fall of 1966. The results may be seen in Table I.

While the major emphasis of this study was focused upon university faculty and staff, data also were secured from some manufacturing firms in the same geographical region to determine how a specific segment of

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[6] Registrar's Office, University of Wyoming, Fall, 1965.

TABLE I

NUMBER OF FACULTY MEMBERS ENGAGED IN ACADEMIC
STUDIES IN SELECTED UNIVERSITIES
FALL OF 1966

	Faculty Administration	Dependents*	Maximum Load	Fees
University of Arizona	329	206	6 semester units	5.00/unit
Colorado State University	133	15	5 quarter units	no costs
University of Idaho	343	---	6 credits 3 summers	no fees
Montana State University	45	---	6 quarter units**	incidental and student building fees waived
Brigham Young University	75	---	no limit	full remission on faculty and spouse
University of Wyoming	85	---	6 semester hours	3 units academic year or 2 credits full summer

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* Unsolicited Information.

** Faculty members with the rank of instructor or assistant professor may register for a total of 6 credits per quarter with the approval of the department head and dean of the college. The approval of the president is necessary for registration in more than 6 credits.

the industrial population felt about continuing education for employee improvement. Inasmuch as many factories today have broad, well organized educational programs, it was felt that opinions of industrial personnel on continuing education policies in industry would add a useful dimension to the scope of this study. According to Clark and Sloan,[7] the educational budgets of many industrial firms are enormous, even exceeding those of some good-sized colleges, and expenditures per student are very often three times the national average for "conventional" educational institutions. A significant portion of these budgets are expended upon educational programs for higher echelon industrial personnel. It has been assumed that educational problems and needs of this relatively well educated group are sufficiently similar to university faculty and staff to merit inclusion in this study.

Statement of the Problem

The major problem of the present study was to determine the number of semester hours faculty members and industrial employees felt they could take while involved in full-time employment and subsequently, to determine if holders of doctors' degrees and/or persons with administrative responsibilities felt differently than non-holders of the doctorate and non-administrators. Other problems were to gather related data about the opinions of full-time faculty members and industrial employees regarding the best methods of continuing education for themselves; when they preferred to continue their education; the amount of course concessions universities should allow; and to compare certain selected data which might have implications for formulating guidelines.

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[7] Harold F. Clark and Harold S. Sloan, Classrooms in the Factories. Institute of Research, Fairleigh Dickinson University. New York: University Press, 1960, pp. 13-18.

In conversations with several university personnel officers the present writer was impressed with the apparent lack of any scientific rationale upon which to base load and concession policies--tradition seemed to be the guiding principle in assigning limitations of credit hours to faculty members. Thus, it seemed quite possible that some faculty members might be handicapped in their professional improvement by university load and concession policies which may have been arbitrarily assigned--however it was not the intent of the present study to make this specific determination. Some questions which seemed obvious were:

1. Is it fair to a faculty member or to his positional responsibilities to arbitrarily make policies that limit the amount of credit he may pursue?
2. What about the status of a faculty member who is a doctoral candidate and who needs to complete course work?
3. Is the industrial employee in a more favorable position policy-wise than the university person?
4. Should an individual on the post-doctorate level forsake the pursuit of professional growth through course work at his own institution?

Valid generalizations about the responsibility of university faculties are not easily made because of a great variety of conditions to be found within and among institutions of higher education. Mostly it is expected that college faculty members will (1) maintain themselves at high levels in their chosen fields, (2) do any combination of research, lecturing, or writing, (3) serve the community (local, state, and national) as resource persons and as leaders, (4) counsel students, and (5) serve on committees.[8]

For personal and professional growth the faculty member has a variety of avenues open in the form of course work, research, conventions, conferences, seminars, current literature, field studies, and sabbaticals. With the exception of course work and sabbaticals, the only restriction in pursuing these opportunities seemed to be professional prudence. Sabbaticals are important but because they entail leaving one's place of employment, usually at a financial sacrifice, they do not fall within the purview of the present study. Sabbaticals have been included in the literature, however, to complete the background for continuing education.

Course work done at the university of employment, on the other hand, may be a real boon, professionally and financially, to faculty members, although there generally are restrictions as to the number of credit hours which faculty members may take in any one semester. These restrictions are usually in the form of maximum load possibilities or in the amount of tuition-free credits allowable per semester.

Then, too, for college faculty and staff members, the typical graduate program generally has fallen short of the mark. It has not offered direct preparation for the fundamental professional responsibility of teaching or college administration. Usually it has been quite narrow in scope.[9] Out of concern for the improvement of college teaching Justman[10] wrote:

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[8] American Council on Education, "College Teaching as a Career," Committee on College Teaching, A11, 1958.

> More serious than the omission of training in the technical aspects of instruction [and administration] is a failure to impart broader concepts of education, human development, [and] the learning process. . . .

If the university professor is to improve himself as Justman wrote, then one method for consideration which would seem appropriate is course work at the university where he is employed.

Importance of the Study

It is important that college faculty and staff members stay "current" in applicable fields of specialization. This is particularly true of teachers who by tradition are called custodians of the knowledge repository. Young[11] said that college people should also broaden their base by ranging far afield, maybe indulging that interest or nursing that long standing hobby.

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[9] Paul Klapper, The Preparation of College Teachers, Theodore C. Blegen and Russell M. Cooper, Editors, (Washington: American Council on Education, 1950,) pp. 40-54. See also: Fred J. Kelley, Toward Better College Teaching, Bulletin No. 13, Office of Education, Federal Security Agency, 71 pp., 1950; Joseph G. Giusti, "Do Teachers for Professional Schools Require Training in Teaching," Journal of Higher Education, 35: 288-289, 1964.

[10] Joseph Justman and Walter H. Mais, College Teaching, Its Practices and Its Potential. New York: Harper and Brothers, 1956, p. 52.

[11] Raymond J. Young, "Educational Research in Colleges and Universities," Journal of Higher Education, p. 33, June, 1958.

As was stated earlier, there are many avenues open to faculty members. The amount of time and credit in which university personnel have been allowed to engage seemed to be based largely on tradition and somewhat arbitrary considerations. Interviews with personnel officers of The University of Wyoming, George Washington University, American University, The University of Maryland, Georgetown University, and with the Dean of the College of Education at The University of Wyoming tended to bear out this assumption.

Results of the study should be helpful to university faculty members and to administrators in the formulation of rules and regulations concerning course load and concession policies for full-time faculty members. Also, it should be of value for use as a basis for comparing existing policies, especially when future changes are contemplated. Finally, it should be useful in alleviating some misunderstandings between faculty and staff members as to what is an equitable policy.

Purposes and Objectives

The purpose of the present study, broadly stated, was to determine and compare opinions of selected university and industrial personnel about continuing education as a basis for establishing some guidelines for the amount of time and/or credit university faculty and staff members should be allowed to take during any one semester at the university of employment. More specifically, the objectives were to determine: (1) the degree to which opinions of university administrators correlated with opinions of other university faculty members; (2) the degree to which opinions of faculty members who hold doctorates compared with opinions of those without doctorates; and (3) to compare opinions of selected industrial employees with opinions of university personnel relative to concession policies for continuing education.

Primary questions for consideration:

1. What should be the maximum number of semester hours for continuing education allowed full-time faculty members at the resident university?
2. Does administrative position bias opinion about course load and concessions? (Both university and industry.)
3. Do holders of doctorates view course load differently from non-doctorates?
4. Should the university offer free courses and released time to employees?
5. By what method(s) do college people prefer to continue their education?
6. By what method(s) do industrial employees prefer to continue their education?
7. Do college faculty members prefer to work at their home university?

Primary comparisons between university and industry:

1. Percentage working toward degrees.
2. Maximum number of units desirable to carry.
3. Time devoted to job and community activities.
4. The number of non-credit adult courses participated in during the last three years.
5. The amount of schooling that should be free.

Procedure

Factual materials were garnered from appropriate authoritative sources and related current literature, as well as from two separate but related opinionaires. One opinionaire was directed toward personnel of universities, the other toward industrial employees.

Target population for the university questionnaire was a seven state area in the Rocky Mountain Region of the United States--Arizona, Colorado, Idaho, Montana, New Mexico, Utah, and Wyoming. Personnel for the industrial opinionaire were in the same general region.

It was not within the purview of this study to solicit information from college personnel employed at non-doctoral granting institutions.

One university from each state was considered to be an adequate sampling. Those finally selected met the criterion of offering a doctoral program in two or more colleges. Up-to-date university bulletins were secured and random instrument mailings were made to faculty members and administrators from the listings in these bulletins. The University of Wyoming was used to pre-test the instrument, after which the forms were mailed, unchanged, to faculty members (381) at the remainder of the selected universities. The return was 75 per cent after 150 follow-up letters and duplicate copies of the questionnaire were sent to those who failed to answer the first inquiry.

As a corollary, eight manufacturing firms were selected from the same general region. Selections were made from the Classified Section of the Sunday Edition of The Denver Post because this was the most expeditious and reliable method in which to locate up to date lists of viable firms. The Denver Post was distributed in each of the states under study and carried advertisements of firms from many cities throughout the United States. The criteria used in selecting these firms were: advertisement appearing three or more times in the paper between April 10, 1966 and June 5, 1966, and that the company advertising for help was located within one of the states in the study. Initially 24 firms were contacted by mail in an effort to find those companies which would be willing to cooperate in supplying lists of employees who were in the position of management, or were scientists, engineers, or highly skilled technicians. Several contacts were made by telephone. For the most part, such contacts originated from the various personnel directors in an effort to verify the source of the questionnaire as a precaution to protect the names of employees. After securing lists of names in the requested categories, a questionnaire was mailed to a sampling of those employees.

Limitations

Geographically, the study was limited to seven universities in a seven state area in the Rocky Mountain Region of the United States. Mailings were made only to faculty members and administrative staff. The questionnaire in essence solicited only the opinions of faculty and staff regarding continuing education and was not concerned with actual university policy, except as it influenced opinion.

The industrial survey should not be interpreted as a random sampling of firms in the seven state area because sixteen of the initial 24 firms asked to participate declined to do so in accordance with company policy on the use of employee names. Therefore, only the states of Colorado, Idaho, New Mexico, and Utah were represented from the original geographic region. This necessarily imposed some limitations upon the use of such data; specifically, few generalizations could be made from the industrial survey.

There was no way of knowing the exact method by which firms selected names of employees to be used. It is assumed that industrial institutions followed guidelines set up for the study but this cannot be definitely stated. Certainly the control for this aspect was much less positive than that for the universities.

Only one company sent a listing of all employees, while the remainder exercised some selection method. In the former case a random selection was made by the present writer; in the latter cases, questionnaires were mailed to names listed. Two firms elected to distribute the questionnaire themselves, otherwise participation would be barred because of company policy concerning the release of employee names.

Definition of Terms

The following definitions are included in the study to avoid misunderstandings in their interpretation.

Adult Education. There is much controversy over the term Adult Education. Verner's definition will serve for this study:[12]

> Adult education is a relationship between an educational agent and a learner in which the agent selects, arranges, and continuously directs a sequence of progressive tasks that provide systematic experiences to achieve learning for those whose participation in such activities is subsidiary and supplemental to a primary productive role in society.

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[12] Jensen, Liveright, and Hallenbeck, op. cit., p. 32.

Clock Hours. Clock hours mean the amount of time in hours actually allotted or devoted to something, as distinguished from semester hours, which is usually the amount of classroom time per week devoted to a single subject and may or may not carry credit toward a degree, certificate, or an award.

College Personnel. The term college personnel refers only to faculty and administrative staff.

Concession Policy. Concession policy refers to university and industrial policy on compensation for taking courses. This may be in the form of free tuition for faculty members and their families or free time for study and includes sabbaticals. For industry, the kind of concession policy would be similar to university, only it may differ in implementation, that is reimbursement may be substituted for "free" courses.

Continuing Education. As used here, continuing education is synonymous with adult education.

Course Work. Course work means any course of instruction usually taken for improvement or advancement on the job. It could be in industrial schools or colleges and universities, or in other classes, and may or may not be taken for academic credit.

Faculty Members. The teaching and administrative staff and other members of the administration having academic rank in an educational institution were considered faculty members for the purposes of this study.

Fisher's t Test. The Fisher's *t* Test is the ratio of a deviation from the mean or other parameter, in a distribution of sample statistics, to the standard error of that distribution. It is used herein for testing a difference between uncorrelated means.

In-Service Education. As used here, in-service education means continuing education of faculty members through special programs, formal or informal, at resident university. It also means continuing education for people in other professions through special programs designed to help them keep abreast of their field.

Industrial Employees. The term industrial employees was restricted to persons in the position of management, or who were scientists, engineers, or highly skilled technicians.

Null-Hypothesis. As used here, the null-hypothesis asserts that there is no true difference between two population means, and that the difference found between sample means is, therefore, accidental and unimportant.

Opinionaire, Questionnaire. Opinionaire is used synonymously with questionnaire and refers to instruments utilized in collecting data for this study.

Point Biserial Correlation. Point biserial correlation is a coefficient of correlation that statistically denotes the degree of relationship between two variables. A correlation coefficient of 1.00 denotes total agreement between two variables, while a correlation coefficient of 0.0 denotes no agreement.

Questionnaire. See Opinionaire above.

Resident University. As used in this study, resident university means the university where respondent was employed.

Respondent. Respondent is a person who completed the questionnaire to some degree and returned it to the present writer.

Staff. Staff, as used in the present study, means the officers chiefly responsible for the internal operations of an institution or business, but not those actually laboring in custodial, secretarial, or maintenance of grounds, and other similar positions.

Target Population. Target population refers to the "universe" and embraces the kinds of people studied, their qualifications, geographic location, education, and is detailed in the limitations of the present study.

CHAPTER II

REVIEW OF UNIVERSITY LITERATURE

The present study was undertaken primarily to determine faculty opinion about various aspects of continuing education with special emphasis on individual course work at place of employment. However, the taking of course work by faculty members at their resident institutions is only one small portion of the broader concept of total faculty improvement.

The purpose of Chapter II was to try to bring together some studies and other related literature from the broad area of faculty improvement rather than material taken strictly from and about course work. This was attempted for two reasons: first, and most important, perhaps, was to give a broader base to the study and to show the supportive and implicative nature of "faculty improvement" literature. And secondly, the present writer had made a search of Coe Library at the University of Wyoming which revealed very little literature pertinent to the specific problem. The libraries of Health, Education, and Welfare and The U. S. Office of Education in Washington, D. C. were searched with no better results. Other agencies and institutions which potentially should have the kinds of information sought but which did not were: The National Center for Educational Statistics, U. S. Office of Education; Bureau of Research, U. S. Office of Education; the American Association of University Professors, Washington, D. C. (some excellent leads were furnished for "other" related literature but nothing specific to course taking and concession policies); and people in knowledgeable positions from several universities in the Washington Metropolitan Area were consulted--with little substantative evidonce to show that policies were based on research.

With this in mind, the present writer organized three matrices toward which appropriate literature seemed to gravitate naturally. These were titled "Faculty Improvement," "Some College Policies and Practices," and "Implications for Course Work."

Faculty Improvement

In 1935 an extensive study of university teaching effectiveness as well as the methods and devices available for improving instruction was carried out by Reed[1] under a grant from the Carnegie Foundation. Ten years later, in the report of the Carnegie Foundation for the Advancement of Teachers, Carmichael[2] declared, "Little interest has been manifested in the problems of improving the quality of teaching and the teacher himself."

National interest was brought about in 1950 and 1951 by two conferences on preparation of college teachers and improving college instruction. The conferences provided an exchange of ideas on policies and methods, and produced two documentary reports.[3] In one of these, Cooper[4] reported on the special in-service program at Minnesota " . . . whereby the staff members are impelled continually to re-examine their goals, their methods, and their effectiveness."

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[1] Anna Y. Reed, and Others, The Effective and the Ineffective College Teachers: A Study Made for the National Personnel Service, Inc. New York: American Book Company, 1935.

[2] Oliver C. Carmichael, "The Teacher and Educational Results," Carnegie Foundation for the Advancement of Teaching, 41st Annual Report. pp. 3-11, 1945-1946.

The President's Commission on Education Beyond the High School[5] in 1957 emphasized that efforts be undertaken to find and disseminate information about ways of making good teaching go further. One result from this commission was the publication, "Effectiveness in Teaching,"[6] which presented research data to support four interrelated factors:

1. The critical factor is the nature of teaching as it affects learning and not class size.
2. No one general method is clearly more effective than others.
3. The problem-oriented approaches to learning are effective. Student and teaching inquiry is promising and should be examined for its curricular and pedagogical implication.
4. Directing learning is effective teaching.

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[3] Theodore C. Blegen and Russell M. Cooper, Editors, The Preparation of College Teachers, American Council on Education Studies, Series I, No. 42. Washington, D. C.: The Council, 1950. See also: Fred J. Kelley, Editor, Improving College Instruction, American Council on Education Studies, Series I, No. 48. Washington, D. C.: The Council, 1951.

[4] Russell M. Cooper, "A Graduate Program for Experienced Teachers," Educational Record, 34:275-277, July, 1953.

[5] President's Commission on Education Beyond the High School, Second Report to the President. Washington, D. C.: Government Printing Office, July, 1957.

[6] Winslow R. Hatch and Ann Bennet, "Effectiveness in Teaching," New Dimensions in Higher Education, No. 2. Washington, D. C.: U. S. Department of Health, Education, and Welfare, Office of Education, Government Printing Office, 1960.

Some Problems of Faculty Improvement: Results of the first nationwide study of college teacher supply and demand in the United States were reported by Mosier[7] in 1950. Mosier indicated that college teachers were burdened with large classes and heavy teaching loads, and would need a 25 per cent over-all increase in numbers to restore the 1939-1940 educational standards. Hamilton and Dunn[8] using 1952-1953 as a point of reference, predicted a need of a 107 per cent increase in the size of college and university faculties by 1970. They commented: "If this problem were merely one of numbers, it would be difficult enough. It is, however, further complicated by the fact that it is qualitative as well."

Gardner[9] in 1958 wrote that in the period since 1953-1954:

> . . . holders of the doctor's degree among the newly employed full-time teachers have decreased 25.2%. Although academic degrees and quality are not identical, it is clear that such a sharp decline in formal preparation may be symptomatic of decline in other respects.

Astin and Lee[10] took a more optimistic position, however. In a study of 1,110 institutions of higher education during the spring of 1966 the authors concluded that ". . . the so-called neglect of undergraduate teaching is more a myth than a reality." They did point out, however, that encouragement of improved teaching is more likely to occur if teaching ability is not judged solely on the basis of scholarly research and publication as the study so clearly indicated.

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[7] Earl E. Mosier, "Summary of an Investigation of a College Teacher Supply and Demand," Journal of Teacher Education, 1:199-203, September, 1950.

[8] Henry T. Heald and Donald H. Morrison, Chairmen, Better Utilization of College Teaching Resources. New York: Fund for the Advancement of Education, October, 1956.

[9] John W. Gardner, Chairman, The Pursuit of Excellence: Education and the Future of America, Panel Report V of the Special Studies Project, Rockefeller Brothers Fund. New York: Doubleday and Company, 1958.

[10] Alexander W. Astin and Calvin B. T. Lee, "Current Practices in the Evaluation and Training of College Teachers," The Education Record, pp. 361-375, Summer, 1966.

Some insights into the motivations, orientations, and problems of the faculty are provided in the reports of Eckert, Sagen, and Stecklein[11] who had collaborated in part and variously on separate publications beginning in January of 1958. Data had been collected on 753 faculty members in Minnesota's 32 colleges and universities. Considered were such topics as why they decided to become teachers, present attitude toward job, and ideas about the best means of recruiting people to academic careers.

After interviews with 86 randomly selected respondents, it was found that teachers could be divided into three fairly distinct groups based on the factors that influenced their decision to become teachers: (a) 31 per cent had a strong allegiance to a particular discipline which they felt could best be served as faculty members; (b) 18 per cent showed a strong desire to teach in college; and (c) 51 per cent had no particular aspiration to be teachers, but were in this career as a chance happening.

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[11] John E. Stecklein and Ruth E. Eckert, An Exploratory Study of Factors Influencing the Choice of College Teaching as a Career. Minneapolis. University of Minnesota, Bureau of Institutional Research, January, 1958. See also: Ruth E. Eckert, John E. Stecklein, and H. Bradley Sagen, "College Faculty Members View Their Jobs," Journal of American Association of University Professors, 45:513-528, Winter, 1959. Ruth E. Eckert "Faculty Views on the Recruitment of College Teachers," Journal of Higher Education, 31:244-251, No. 5, May, 1960.

In appraising career choices, the interviewers found the principal dissatisfactions were: (a) too much red tape; (b) unmotivated students; and (c) poor salary.

In the period from 1919-1943 Cheydleur[12] studied the work of about 175 basic French instructors of all ranks and the performance of some 36,000 students. He concluded:

> Teachers doing no graduate work are more effective than those doing graduate work while teaching; teachers of non-professional rank do much better than those of professional rank; women do slightly better than men teachers; American-born teachers are more effective than foreign-born; teaching efficiency is progressively better as classes diminish in size; strong teachers show high efficiency on both departmental examinations and on highly standardized foreign language tests.

A small sampling of faculty members from 79 institutions, who had not been in their present position for more than three years, were polled on degree of difficulty experienced in the first year of teaching, in 50 areas of personal, social, and professional problems.[13] Some of their reactions were:

34.1% had a feeling of inadequacy of preparation.
55.8% had trouble getting help in improving their own teaching.
59.3% experienced difficulty in understanding policies regarding promotion and salary increases.

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[12] Frederic D. Cheyldeur, "Judging Teachers of Basic French Courses by Objective Means at the University of Wisconsin, 1919-1943," Journal of Educational Research, 39:161-192, November, 1945.

[13] Robert O. Stripling, "Problems of New Members of the College Faculty," Clearing House, 27:356-362, February, 1953.

Writing is a problem. In 1956 Maslow and Zimmerman[14] tried to determine whether research activity and writing were positively or negatively correlated with goodness of teaching. They concluded, at least in the college where the ratings were obtained, that colleagues tended to equate good teaching with creativity (writing or research). A study done by the Social Science Research Council[15] showed that 1,300 faculty members in all major fields of undergraduate teaching devoted an average of 30 hours a week to preparation and teaching, and 11 hours to research, writing, and other creative activities.

Another factor which is still unresolved and which continues to provoke discussion is research versus teaching. For instance, Caplow and McGee[16] noted that:

> . . . the conflicting demands of teaching and research have consequences for the administration in that identification with teaching represents an orientation to local prestige, while with research an orientation to disciplinary prestige.

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[14] A. H. Maslow and John E. Zimmerman, "College Teaching Ability, Scholarship Activity, and Personality," Journal of Educational Psychology, 47:185-189, March, 1956.

[15] Russell S. Poor and Charles H. Schauer, "What are the Responsibilities of Teachers of Undergraduates for Research?" Current Issues in Higher Education, Association for Higher Education, Proceedings of the Ninth Annual Conference on Higher Education. Washington, D. C.: The Association, a department of the National Education Association, pp. 115-122, 1954.

[16] Theodore Caplow and Reece J. McGee, The Academic Marketplace. New York: Basic Books, 1958.

In-Service Development. In-service improvement of college faculties is wide-spread. After visiting some forty colleges and universities Neuberger[17] said he was convinced that ". . . in-service education is the key which has unlocked the door and opened a new vista in higher education." The most popular in-service program seemed to him to be the workshop and the seminar, both of which could involve course work.

Ellis[18] reported in 1949 that ". . . since September 1946 we have had more experience in on-the-job training of college teachers. . . at the University of Missouri than we have had in all our previous history." Becker[19] listed 10 functional categories in which to classify 115 different methods, procedures, and devices for in-service improvement. He said, "Though the need is admittedly critical, the development of in-service programs during the past 25 years has been slow."

Kelley[20] analyzed twenty studies of in-service education in college faculties covering a period of twenty-one years, 1927-1948, and tabulated the procedures which were most highly recommended. The three most frequently mentioned practices which alluded to personal development through course work were:

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[17] L. Mark Neuberger, "In-Service Improvement of Teaching," Improving College and University Teaching, 7:48-51, Winter, 1959.

[18] Elmer Ellis, "In-Service Training of College Teachers," Transactions and Proceedings, National Association of State Universities. Washington, D. C.: The Association, pp. 46-52, 1949.

[19] Harry A. Becker, "Protecting the Investment in Faculty," Journal of Educational Sociology, 26:199-211, January, 1953.

[20] William Frederick Kelley, "Twenty Studies of In-Service Education of College Faculty and the Procedures Most Recommended," Educational Administration and Supervision, 38:351-358, October, 1950.

1. To encourage further study in one's field or [in] higher education.
2. To promote departmental and divisional study groups on common interests.
3. To provide courses in methods of field or in higher education.

Twenty-eight practices were selected from the literature by Norris[21] and developed into a questionnaire and rating sheet distributed to teachers in the New York State Colleges. According to returns, teachers agreed that all of the practices mentioned would, if used effectively, contribute to improvement of teaching. He observed that the teaching staff did not feel that administrators showed sufficient sympathy toward or understanding of good teachers.

Norris classified selected in-service practices into 10 main types:

1. Introduction of new faculty members.
2. Opportunities for participation in determining the policies and programs of the college.
3. Environmental conditions conducive to good morale.
4. Assistance to teachers by providing central services.
5. Organized intervisitation and exchange of faculty members and their participation in service and activities,
6. Consultive professional service in assisting instructors to improve their teaching.
7. Organized study of educational problems.

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[21] Robert Bayless Norris, "In-Service Techniques for Improving College Instruction," Educational Administration and Supervision, 39: 370-374, October, 1953.

8. Opportunities for individual experimentation and research [and course taking].
9. Assistance through rating and student reactions.
10. Encouraging participation in professional organizations.

Over a decade ago medical schools were exhibiting considerable imagination in the in-service field. Noyes and Batterson[22] indicated that half of 41 dental schools had organized programs for instructing the faculty, almost half had a part-time member of the faculty who served as an educational consultant, and three had full-time people in this capacity.

In 1965-1966 there were 863 courses, seminars, conferences, etc. offered by all but twenty medical schools in the United States. According to Ruhe,[23] these offerings were called "Continuing Medical Education" by The American Medical Association, and were:

> . . . intended both to refresh the individual in various aspects of his basic medical education and to inform him of the new developments within his field, and do not lead to any formal advanced standing in the profession. . . .

Hall[24] identified six guiding principles that were found to be essential to effective in-service efforts undertaken by colleges to enhance the professional development of their faculties:

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[22] Harold J. Noyes and George Batterson, "Analysis of In-Service Training Questionnaire," Journal of Dental Education, 20:56-65, January, 1956.

[23] C. H. William Ruhe, "Continuing Education Course for Physicians," The Journal of The American Medical Association, 193:447-534, August 9, 1965.

[24] Herman A. Estrin and Delmer M. Good, Editors, College and University Teaching. Dubuque, Iowa: William C. Brown Co., 1964, pp. 604-605.

> 1. In-service efforts should be focused on these problems and means that are felt to be vital by the staff for its development. . . .
>
> 2. In-service undertakings should be developed whenever possible through stimulation and encouragement rather than through compulsion.
>
> 3. In-service programs should provide opportunities on both an individual and a group basis for staff members to plan, study, and experiment freely.
>
> 4. The administration should provide positive support for in-service undertakings through encouragement and the provision of needed materials and facilities.
>
> 5. Full advantage should be taken of the existing in-service framework, but this framework should not be used to interfere with promising experimental modifications.
>
> 6. Every effort should be made in all phases of in-service endeavor to encourage the development of high faculty morale through democratic leadership and cooperation between the administrative officers and the teaching personnel.

Sabbatical Leave. Course work done at the place of employment was the primary concern of this study, so literature would not normally be cited for sabbatical leave. However, it did seem appropriate and desirable to include some material about this kind of continuing education in order to round out the education possibilities for college faculties.

Sabbatical leave policies and practices were studied by the U. S. Office of Education in 72 institutions of higher education. The study, historical in nature, included the earliest institutions in the United States to establish sabbaticals. Of the 72 institutions, forty-eight were called "pioneer" because of early establishment and long duration.

A summary by Eels and Hollis[25] of present practices of these 48 pioneer institutes included:

> Purpose
>
> Most of the 48 institutions state . . . that the ultimate purpose is not so much the welfare of the individual for his own sake, but his increased capacity for usefulness to the institution.
>
> Eligibility: Rank
>
> Most frequently sabbatical leave is open to assistant professors, associate professors, and full professors. . . . Fifteen make it open to all instructional ranks. In five it is open to professors and associate professors.
>
> Eligibility: Period of Service
>
> A distinct majority of the 48 institutions, 36 in all, require 6 years of service before an individual becomes eligible for sabbatical leave. A few require that the 6 years shall have been as an assistant professor or one of higher rank. One requires 7 years of prior service; another, 10 years. A few other variations and qualifications are found.
>
> Other Eligibility Requirements
>
> Eight institutions state restrictions on the age. . . . Among them: he must not be older than 60 or 62 years; he must be able to teach 2 years after his return before retirement; leave will not be granted within 5 years of retirement age.
>
> Period of Leave and Salary
>
> Twenty-two of the 48 institutions offer the option of 1 year of leave at half-salary or one-half year of leave at full salary. Ten institutions apparently grant leave only for the full year at half-salary. . . and three, a generous three-fourths salary for the full year.

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[25] Walter C. Eels and Ernest V. Hollis, "Sabbatical Leave in American Higher Education," Bulletin No. 17, OE-53016, U. S. Department of Health, Education, and Welfare, pp. 18-20, 1962.

Restrictions on Service and Salary

. . . . The most common restriction is that the individual may not engage in remunerative service elsewhere, although fellowships and other research grants are usually permitted. . . .

Use of Time

. . . . One institution says that the time must be used in studying for advanced degrees, in taking post-doctoral study or equivalent activities; while another, by contrast, states that 'work toward a graduate degree is not permitted.' A third permits sabbatical leave 'in no case for study or creative work of any sort under the tutelage, direction, teaching, or supervision of some other person or persons.' Two institutions insist that the period of leave shall not be used for purposes of recreation.

Advance Submission of Plans

At least 14 institutions require that detailed plans for the period of sabbatical leave shall be submitted in advance for the approval of appropriate authorities.

Formal Approval of Requirements

Many of the institutions require formal approval of the proposal for sabbatical leave, most frequently by the president and board of trustees (six cases), but in some instances by the dean, department head, executive committee, research committee, sabbatical leave committee, research committee, or State Board of Education.

Some College Policies and Practices

In 1954, instructional practices and policies in some 620 institutions were consolidated by the National Education Association[26] and in

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[26] National Education Association, Research Division, "Instructional Staff Practices and Policies in Degree-Granting Institutions, 1953-54," NEA Research Bulletin, 32:159-214, December, 1954. (Summarized in NEA Journal, 43:567-568, December, 1954.)

1955 the American Society for Engineering Education[27] surveyed another 115 member institutions on recognition and incentives for good teaching.

The University of Indiana[28] in its criteria for promotions mentioned that among other requirements, "The candidate should possess a definite continuing program of studies, investigations, or creative works." Out of concern for better salaries, rank, and advancement, it was stipulated in the University of Connecticut Bulletin,[29] 1965, that "He [staff member] cannot fulfill his responsibility without continuing throughout his active life, to invest a part of his time, energy, and money in his own intellectual growth." The bulletin specified the need for continuing development of faculty member's natural endowments through ". . . study, . . . reading, . . . museum work, . . . and creative work in other fields such as the arts and engineering." California's Handbook[30] stated under criteria for promotion, ". . . superior intellectual attainment, as evidenced both in teaching and in research or creative achievement, is an indispensable qualification for appointment or promotion to tenure position. . . ."

Though it is commendable that faculty members set for themselves lofty goals of intellectual growth and attainment, it seemed from the literature that often motivation came, not from these ideals, but from the desire to attain academic rank, economic security, and prestige fulfillment. Whatever the stimulus, the need for continuation in some intellectual endeavor is implicit and real--and this could be course work.[31]

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[27] Harry W. Case, "Report of Survey Conducted by Committee on Recognition and Incentives for Good Teaching," Journal of Engineering Education, 46:81-85, September, 1955.

[28] Indiana University, Faculty Handbook, p. 35, 1962.

[29] University of Connecticut, Faculty Handbook, All, 1965.

[30] Handbook for Faculty Members of the University of California, p. 55, February, 1963.

Specific Implications for Course Work

McGrath,[32] gave argument for studying broadly. He maintained that ". . . a teacher of undergraduates can hardly be superior unless he knows his subject in the broad." McGrath said that many professors dedicated to fractural research in a narrow field and those who prefer only to teach advanced students, believe that to command a sweeping knowledge in one of the major branches of learning must be to dabble in learning and to be very superficial. But McGrath took issue with this, he said:

> If teachers were to be properly prepared for the cultivation of these intellectual traits their own training ought to be broadened beyond the narrow limits of a newly sprouted twig on a small branch, of the main trunk of knowledge in the sweeping forest of modern learning.
>
> In addition to the general knowledge in his own area of learning--the humanities, for example--the teacher ought to also expand his grasp of the subject matter of other fields. . . to be well informed and [an] intelligent citizen. . . for more efficient discharge of his professional responsibilities.

Tead[33] said, teachers should ". . . educate the man in his wholeness first, and the specialist second." To educate the man in his wholeness a teacher must have a broad education himself.

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[31] Herman Estrin, op. cit., pp. 92-95.

[32] Herman Estrin, op. cit., pp. 548-558.

[33] Herman Estrin, op. cit., p. 596.

Morton[34] made a case for "humanizing" the teacher. His feelings were that to present and transfer knowledge to students was not enough, that the really good teacher could and should be able to meet and deal with people of all ages. He said that, "Some instructors are not effective teachers because they are not effective people. They do not think broadly and logically. They make little effort to establish effective interpersonal relationships." Morton favored several psychology courses for all teachers, but did not say how or where these were to be taken.

Byrns[35] was concerned about the "pragmatic barrier" to learning--an inability of students to see any practical use for taking a certain course other than fulfilling requirements. He thought that the instructor should be wary of setting up his own pragmatic barrier, too. That is, over-emphasizing the quantative aspects of his subject without imparting an understanding of the underlying philosophy of his course. To do this, Byrns felt the instructor must know the relationships existing between fields of knowledge. "Too many teachers of humanities have no awareness of the concepts of science; too many scientists know little about the value of humanities."

McCarthy[36] said there were four requirements for good teaching. The one which is of concern to the present study is that ". . . the teacher should know about and [be] interested in a wide variety of matters outside his own field."

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[34] Herman Estrin, op. cit., pp. 562-565.

[35] Herman Estrin, op. cit., pp. 579-583.

[36] Herman Estrin, op. cit., pp. 597-598.

REVIEW OF INDUSTRIAL LITERATURE

According to Clark and Sloan,[37] industrial establishments today are engaged in a vast amount of employee training--ranging from regular apprenticeship programs through job orientation and job related classroom instruction, to sponsoring degree programs for selected employees attending conventional institutions of higher education.

Equitable Life Assurance Society, Incorporated[38] is one illustration of a firm which pays 100 per cent of the cost of a college education of selected employees. From 1957 to 1964 it had paid out one million dollars to 3,000 such employees. Equitable maintains that the plan stimulated higher morale, greater production, and faster promotion. Despite the fact that there is no obligation to Equitable to remain, only two participants per year leave the company. There are certain criteria to be met in establishing the eligibility of an employee for schooling but they are quite liberal. The firm insists that employees: 1) must have worked at least a year with the company; 2) must be full-time salaried; 3) must attend fully accredited two or four year institutions of higher education; and 4) if studying for an advanced degree, must be above average on the job.

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[37] Harold F. Clark and Harold S. Sloan, Classrooms in the Factories. New York: Fairleigh Dickinson University, 1960, 139 pp.

[38] "Should You Buy Your Employees a College Education," Business Management, pp. 53-56, November, 1964.

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There seems to be no limit to which a company will go in educating its employees, particularly if there is a practical goal in sight. St. Maries Plywood Company,[39] with the help of two technical men from the American Plywood Association, set up a school and educated its 80 employees from scratch in the classroom and on the job in its new plant location.

Employee reimbursement or tuition refunds for courses vary from company to company. Some typical policies are based on:[40]

1. Flat Refund Rate. This is where either all or part of the cost is refunded.
2. Final Grades. If the employee received an A in the course, there is a 100% refund; with a B there is a 75 per cent refund, and with a C, a 50 per cent refund.
3. Passing Grade. As long as the employee passes the course he is taking, he is given a complete refund.

Returning money to an employee for courses taken is just one type of financial assistance offered by companies. Some have established employee scholarships or grants. Still others have set up their own classes to teach employees technical as well as academic subjects.

This exciting innovation in industry has been a long time in developing. Originally, when industry was domicile in nature, a master craftsman would condescend to "take on" an indentured servant or apprentice. More often than not it was a one sided arrangement with the master getting the better end of the bargain. The apprentice usually worked long and hard for a livelihood with compensation amounting to little more than board, lodging, and clothing--little or no money wage was ever realized. Moreover, the training period extended through many long, hard years which may not have been warranted.

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[39] W. J. Arnold, Management Editor, "Sending a Plant Back to School," Business Week, pp. 65-66, November 28, 1964.

[40] "Financing Tuition Plans," American Management, p. 14, November, 1964.

By 1850, with the firm establishment of the factory system in America, domestic type apprenticeship was doomed. At this time money wages were gradually substituted for wages in kind. Even so, conditions for the apprentice did not change appreciably until after the turn of the century. As late as 1913, no substantial changes had really been made. Clark and Sloan[41] said that sometimes it was even necessary for parents to compensate the employer for training expenses incurred during the course of a son's apprenticeship.

But in 1937 the Federal Government stepped in with the passage of the Fitzgerald Act.[42] Subsequently wages, standards of instruction, supervision, and evaluation were determined by a Federal policy-making body within the Labor Department. Now, according to Patterson and Hedges,[43] several thousand local committees throughout the country supervise the apprenticeship programs within their own jurisdiction.

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[41] Clark and Sloan, op. cit., p. 4.

[42] Public--No. 308, 75th Congress, Chapter 663, 1st Session, H. R. 7274.

[43] William Patterson and Marion Hedges, Educating for Industry Through Apprenticeship. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1947, pp. 15-16.

With high standards and close supervision, apprenticeship programs have been substantial contributors of skilled workers and supervisory talent to the labor market. Pitzele[44] reported in 1956 that 70,000 graduates of apprenticeship programs enter the skilled-labor force each year. This represented 28 per cent of the total need, and they were particularly well trained.

In the latter half of the 19th Century another institution of training, that of "corporation schools," came into being as a result of a burgeoning economy and lack of skilled personnel which forced manufacturers to establish their own schools. These corporation schools filled a need that could not be met, or at least had not been met, by regular public or private secondary schools at the time.[45]

Curricula in corporation schools varied widely from highly technical subjects to general subjects normally taught in public schools; from training in simple skills which helped the employee get on with the job, to more complex engineering courses. Some companies made it possible for employees to attend classes outside while doing part-time work with the company. Kaplan[46] wrote that companies were much better off if technicians and specialists received some broad education in the humanities.

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[44] Merlyn S. Pitzele, Labor Editor, "The Skilled Labor Force Problem, A Growing Problem," Business Week, p. 64, August 18, 1956.

[45] Apprenticeship, Past and Present, 3rd Edition, U. S. Department of Labor, Bureau of Apprenticeship. Washington, D. C.: 1955, pp. 29-30.

[46] Abbott J. Kaplan, Editor, "Trends and Tangents," Journal of Higher Education, 35:289-291, 1964.

Kaplan went on to say, "During this past year there has been increasing discussion of the possibility of sabbaticals in industry, for production workers as well as supervisors, and for released time study at company cost."

Arnold[47] reported that the National Industrial Conference Board had made a survey of 1,074 trainees in 26 corporate programs. It could be seen from the survey that college seniors scored 2 to 1 in favor of formal education over on the job training. However many changed their minds later on to favor on the job schooling. In the same survey it was seen that only 28 per cent were disappointed with advancement possibilities after completion of the program. Turned around, 72 per cent were at least satisfied with the training and its ensuing rewards.

Newcomer[48] observed that the two overlapping industrial education institutions (apprenticeship and corporate schools), when combined meaningfully with on the job experience, produced a highly satisfactory means for training industrial workers in the early nineteen hundreds. Only contempt had been shown for the college man--who would have to get some on the job training in order to be of any real value to the company. But progress continued and industry inevitably became more complex and problems of organization and management worsened. According to Sheldon,[49] in 1921 the American Federated Engineering Societies investigated certain areas of production and reported that from 50 to 75 per cent of the waste resulted from ineffective management. Moulton,[50] however, considered managerial talent difficult to secure. During World War I the 20 per cent over-all surplus capacity in American factories had been quickly dissipated by the war effort. Skills for specialized operations were taught on the job, but industry had to turn to colleges and universities for help in management, and here they almost went begging.

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[47] W. J. Arnold, Management Editor, "Trainees Favor On-The-Job," Business Week, p. 60, June 29, 1963.

[48] Mable Newcomer, The Big Business Executive, the Factors That Made Him. New York: Columbia University Press, 1955, p. 66.

[49] Oliver Sheldon, The Encyclopaedia of the Social Sciences. New York: The Maxmillan Company, 10:79, 1930.

Just prior to World War I there had been only about 9,000 students enrolled in business courses according to Mitchel.[51] By 1955, 41,000 business and commerce students received degrees--this was second only to education.[52] Gentry[53] estimated that currently [1966] there were more than 50,000 undergraduate degrees in business and commerce awarded annually.

Industry accepted these graduates--what else could it do? But bridging the gap between college and business life remained troublesome.

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[50] Harold Moulton, Income and Economic Progress. Washington, D. C.: Brookings Institution, 1935, pp. 17-21.

[51] Wesley C. Mitchel, The Encyclopaedia of the Social Sciences. New York: The Maxmillan Company, 3:109, 1930.

[52] Statistical Abstract of the United States. 77th Ann. Edition, U. S. Department of Commerce. Washington, D. C.: 1956, p. 13L.

[53] Dwight L. Gentry, "Changing Patterns of Business Education," Personnel Journal, 44:184-186, April, 1965.

In 1959 one report by Gordon and Howell[54] and another by Pierson[55] were published as a result of separate efforts to evaluate the quality of business education, and aroused the concern of both educators and employers.

In brief, the reports concluded that:

1. The quality of business education was comparatively low in that programs of study were not sufficiently rigorous.
2. The overall quality of the students attracted to business education was low compared to many other disciplines.
3. The course offerings in the area emphasized too much specialization at the expense of a more fundamental education.
4. The course offerings did not often reflect the more recent advances in business management.

Slowly industrialists began to supplement academic training with adequate, modern education programs of their own. But as late as 1946, only five per cent out of 3,459 respondents reported to the National Industrial Conference Board[56] as having an executive-training program. After World War II, and perhaps as a result of that war, the nation was in a second industrial revolution which overlapped the first and which Jones[57] said ". . . may be destined to cause greater change in the economy for the future."

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[54] R. A. Gordon and J. E. Howell, Higher Education for Business. New York: Columbia University Press, 1959.

[55] Frank C. Pierson, Editor, The Education of American Businessmen. New York: McGraw-Hill Book Company, Inc., 1959.

[56] Studies in Personnel Policy, No. 107. New York: National Industrial Conference, p. 3.

[57] E. M. Hugh-Jones, Editor, The Push-Button World, Automation Today. Norman, Oklahoma: University of Oklahoma Press, 1965, p. 125.

There is still a gap between business education and business needs. According to Herman[58] there were several reasons for this:

1. Schools do not have enough money to offer all the practical courses.
2. There are not enough businessmen in the business teaching field.
3. There is not enough close communication between education and business.

At a recent Society of Automotive Engineers meeting in Los Angeles,[59] five panel members painted a rather dreary picture of the gulf existing between universities and industries in engineering. Even the two engineering professors on the panel agreed that:

1. Today's typical engineering student can't write, read, or talk. He cannot draw. Even if he could, he wouldn't be caught dead at a drafting board. . . .
2. The typical engineering professor is a perennial student who never left the campus and consequently doesn't know anything about the needs of industry. . . .
3. Universities offer students only 'fun' courses. Drawing, lab, and shop courses have vanished from the engineering curriculum. . . .

Specific steps are being taken by both entities to close the gap. More businessmen are getting directly involved in education, companies are increasing their scholarship programs, and they are urging personnel on every level to take advantage of educational facilities.

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[58] Susan J. Herman, "Business Education: Does It Serve Business' Needs?," Administrative Management, p. 20, June, 1966.

[59] "Teach Practical Engineering, S. A. E. Panelists Tell Educators," The Engineer and His Profession, p. 122, September, 1966.

In a recent study by Clark and Sloan,[60] 296, or about 85 per cent, out of 349 replies of the largest corporations in America, carry on some sort of educational activity requiring regular attendance by the participants.

Almost 67 per cent of those who reported educational activities conducted programs inside as well as outside their jurisdiction in one or more colleges or universities. All of the corporations with "in-house" programs reported using their own teaching staff either full or part-time. About one-half said that their staffs were supplemented by part-time college professors or equivalent authority.

One hundred ninety-eight, or 97.5 per cent, out of 203 corporations which offered their employees education in colleges or universities reported defraying the expenses in whole or in part. Clark and Sloan pointed out that many explanatory notes from the respondents indicated that this policy ". . . was contingent upon grades received, high grades bring greater assistance in some cases."

But despite all the "good" things happening in industry toward continuing education, there is need for better programs, better participation, and more money. Torpy[61] showed that in the analysis of 96 companies 55.4 per cent of all scientists and engineers participated in education programs, on an individual basis less than 11 man days per year, and at an average cost of .539 per cent of the company's gross income. Torpy felt this was not enough participation nor enough expenditure in light of the need expressed in his survey instrument.

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[60] Clark and Sloan, op. cit., p. 14.

[61] William G. Torpy, "Company Investment in Continuing Education for Scientists and Engineers," Educational Record: 45:408-413, 1964.

Chamberlain[62] suggested that business firms set up schools on the premises to educate employees for a wide variety of conditions ranging from adult basic education through post-doctoral study. He suggested further that an employee record should be kept of the schooling undertaken--much like his ordinary work record and that no degree necessarily would be offered.

Chamberlain's arguments for such a continuing education program were to narrow the gap between university education and new scientific technology being developed in industry; and that employees would have greater motivation because they would be earning a living while studying about the thing they actually do on the job.

He suggested released time for approximately one-half day per week for teacher and students. Students would come of their own volition.

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[62] Neil W. Chamberlain, "The Corporation As A College," The Atlantic Monthly, pp. 102-104, June, 1965.

CHAPTER III

PRESENTATION AND ANALYSIS OF UNIVERSITY DATA

The purpose of this chapter was to present and analyze data germane to this study of continuing education for college faculty and staff as indicated by opinions of these randomly selected personnel.

Of the 374 faculty and staff members who were asked to participate in this study, 285, or 76.2 per cent, responded. Eight returned the questionnaire unanswered. Nine of the instruments could not be used because the respondent was not, in fact, a bona fide participant as outlined in the limitations. Finally, 89 out of 374, or 23.7 per cent, could not be reached at all. These data were derived from the replies of 268 respondents, or 71.6 per cent, of those individuals who were asked to participate. In some cases the respondents did not choose to answer every item. This fact accounts for the varying number of total responses reflected in the tables.

Data were computerized at HUMRRO (Human Resources Research Office), a branch of George Washington University in Alexandria, Virginia. Point biserial correlations were made so that the level of significance could be determined by merely entering an appropriate correlation table with the proper number of degrees of freedom.[1] To assure being right 95 per cent of the time and to use standard statistical practice, a .05 level of confidence for testing hypotheses was used.

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[1] J. P. Guilford, Fundamental Statistics in Psychology and Education. New York: McGraw-Hill Book Company, 1965, pp. 183-184.

Each question was treated successively as it appeared in the instrument. Then, near the end of the present chapter, statistical analysis was made on selected items.

Highest Degree Now Held and Date Obtained

TABLE II

YEAR EARNED HIGHEST ACADEMIC DEGREE

	Five Year Periods							
	1927-1931	1932-1936	1937-1941	1942-1946	1947-1951	1952-1956	1957-1961	1962-1966
Number of Respondents	3	10	8	14	27	56	55	95
Percentages	01.12	03.73	02.98	05.22	10.08	20.90	20.52	35.45

Of the 268 respondents in the study, 151, or 56 per cent, were holders of earned doctorate degrees. Of the remainder, four held professional degrees, 94 had masters' degrees, and 19 held bachelors' degrees.

As a convenient means of showing the relative length of time since respondents completed requirements for their highest degree, tabulations were made in Table II in periods of five years.

Over 50 per cent of the respondents earned their present highest academic degree in the ten-year period after 1956. Forty-four per cent, or 118, earned the latest degree in the periods between 1927 and 1956. These data are shown in the preceding Table II.

What Is Your Present Position And Academic Rank?

Questions three and four of the university instrument were constructed for the purpose of allowing the present writer the choice of placing respondents either into positions of administration or non-administration. This eliminated the need for going into lengthy explanations of what was to be considered administrative or non-administrative. Question 3 corroborated Item 4 so that it was made clearer. (In the pretest the question, "If you are faculty, what is your academic rank," fared poorly because the term "faculty" had not been defined. It was made clear by comparing these two.) There were 85 professors, 60 associate professors, 73 assistant professors, 46 instructors, and 4 others.

Forty-five, or 16.8 per cent, were in some sort of administrative capacity, while 219, or 83.2 per cent, were non-administrative. No attempt was made at further sub-categorizations, such as part-time administrators, deans, heads of departments, chancellors, presidents, vice-presidents, and similar types of positions. If the duties of any respondent included some fraction of the above mentioned responsibilities, that respondent was placed in the administrative category. All others were placed in the non-administrative category.

Are You Presently Working Toward A Graduate Degree? Where?

Forty-nine, or 18.8 per cent, out of 260 respondents, were working toward some kind of a graduate degree. Twenty-seven, or roughly half of those pursuing a higher degree, were doing so at their own institution of employment.

How Many Semester Hours Have You Carried for Credit As A Student In The Last Three Years?

In Table III, data were categorized under the academic degrees of Bachelor, Master, and Ph. D. to show the relative number of respondents for each degree and to make some discernment about the potential reasons for taking courses.

One hundred fifty-seven persons responding had not been engaged in any course work for credit within the period from 1963 to 1966. Ninety persons, or 46.5 per cent, of the 247 persons responding to Item 7, had been enrolled in credit course(s) since 1963. Of this number, 12 had taken over 30 semester hours in that 3-year period. It was possible to attribute some of the schooling to work on advanced degrees. (A tally of 30 respondents was made from the single starred numbers in Table III indicating that this number of persons had completed degrees within the three-year period and that course work probably had been taken in that connection.) But the remaining 60 course takers, or 24.29 per cent, out of the original 247 respondents, could not be explained away that easily.

Prior to 1963, thirty-two out of the original 247 respondents were enrolled in classes and had been working toward advanced degrees. But

TABLE III

SEMESTER HOURS CREDIT EARNED BY DEGREE CATEGORIES BETWEEN 1963 AND 1966

	Semester Hours															
	0	1-6		7-12		13-18		19-24		25-30		31-36		Over 36		Totals
Bachelors	7	1		4			1*	2		3		1			1*	————
Masters	39	16	3*	10	4*	3	1*	4	3*	3	1*		2*	1	4*	---------
Ph. D.	111	5	4*	2	4*		2*	1		1		1		2		---------
Total **	157	22		16		3		7		7		2		3		60**
Total *			7*		8*		4*		3*		1*		2*		5*	30*
Combined Total		29		24		7		10		8		4		8		90

* Represents those who took academic courses between 1963 and 1966 and who completed a formal degree during that same period of time.

** Totals of the number of semester hours earned by all faculty members excluding those who earned degrees since 1963.

forty-five of the 247 respondents took courses for reasons other than advanced degrees; of these, 21 were holders of doctors' degrees as shown in Table IV.

TABLE IV

COURSES TAKEN PRIOR TO 1963

Present Degree	Working Toward Another Degree	Other Reasons
Bachelors	8	3
Masters	24	21
Doctorates	0	21
Totals	32	45

Number Of Non-Credit Adult Courses Taken In The Last Three Years.

Out of 252 responses, 194, or about 77 per cent, indicated no participation in adult non-credit courses in the last three years. As indicated in Table V, about 18 per cent had been enrolled for one to three such courses within that same period. A very small percentage (2.4 per cent) had taken 6 or more semester hours of non-credit courses in the three-year span. Average participation by 56 course takers was 3.21 adult courses.

TABLE V

NON-CREDIT ADULT COURSES TAKEN BETWEEN 1963 AND 1966

	Number of Courses								
	0	1	2	3	4	5	6	Over 6	Total
Participants	194	23	17	6	3	3	1	5	252
Percentage	76.90	09.13	06.75	02.38	01.10	01.10	00.40	2.0	99.94

Time Factor

Questions 9 and 10 were included in the survey to determine the amount of time university respondents devoted to school and community activities so that relations with Item 11 in the questionnaire might be investigated.

In order to make it easier for respondents to remember the average number of hours per week, Item 9 contained three parts: a) number of hours per week devoted to any combination of teaching, research, or administration; b) amount of time spent in committee meetings associated with stated position; and c) all professional organizations. Table VI contained tabulations of participants, percentages, and hours devoted to the first category--teaching, research, or administration. The average number of hours per week thus devoted was 42.0. Sub-items 9 b and

9c (committee meetings and professional organizations) had means of 3.80 and 2.92 and were placed in Table VII.

TABLE VI

HOURS PER WEEK DEVOTED TO TEACHING, RESEARCH, OR ADMINISTRATION

	Hours									
	16 or less	20-29	30-34	35-39	40-44	45-49	50-54	55-60	Over 60	Totals
Participants	4	14	17	29	75	42	49	18	13	261
Percentages	01.53	05.36	06.50	11.11	28.74	15.71	18.77	06.90	4.96	99.58
Mean	42.00									

Question 10, Church and Civic Activities, was marked "Optional" to avoid offending any clientele. Two hundred thirty-two responded to this item, with an average of 3.88 hours per week so devoted. The four means from Items 9 and 10 were then added together to give a total average mean of 52.6 hours per week that college faculty members and administrators said they devoted to their jobs and to the community. Tabulations for Item 10, as well as for Items 9b and 9c may be seen in Table VII.

TABLE VII

TIME IN COMMITTEE MEETINGS, PROFESSIONAL ORGANIZATIONS, AND CIVIC ACTIVITIES

	Hours						
	0	1-3	4-6	7-9	10-12	Over 12	Totals
Committee Meetings							
Participants	20	21	69	11	18	4	143
Percentages	08.23	49.79	28.40	4.53	7.40	01.64	99.99
Mean	3.80						
Professional Organizations							
Participants	20	152	44	3	9	6	234
Percentages	08.55	64.96	18.80	1.28	3.85	2.56	100
Mean	2.92						
Church or Civic Activities							
Participants	45	93	63	12	13	6	232
Percentages	19.40	40.09	27.15	5.17	5.60	2.59	100
Mean	3.88						

Maximum Number of Semester Hours to Carry

TABLE VIII

MAXIMUM NUMBER OF SEMESTER HOURS FACULTY MEMBERS FELT THEY COULD CARRY

	Semester Hours						
	0	1-2	3	4-6	8-9	10-12	Over 12
Participants	62	12	91	59	14	9	4
Percentages	24.70	4.78	36.25	23.51	5.58	3.59	1.60

Comparisons were made between holders and non-holders of doctors' degrees relating to what they thought were the maximum number of semester hours that they could carry comfortably without adversely affecting full-time duties.

Sixty-two faculty members, out of a total response of 247, roughly 25 per cent, said that they could not do any course work. (It should be noted that for these 62 faculty members the mean work week was 58.8 hours compared to 52.6 hours for the entire sample.) Four faculty members thought they should be able to carry as many as twelve to eighteen semester hours; whereas, the largest number of respondents, 91 in all, or 36.25 per cent, felt that three semester hours were all that faculty members should take while working full-time. (See Table VIII for a breakdown in numbers and percentages of faculty members by semester hours.)

TABLE IX

MAXIMUM SEMESTER HOURS COMPARED

	Mean	Number	Pro-portion	Variance - Estimated Population	Point Biserial Correlation	.05 Level
Doctorate vs.	3.382	141	.5708	20.93	-.0587	*
Non-Doctorate	3.764	106	.4291	25.83		
Administration vs.	1.906	43	.1720	18.00	-.23085	**
Non-Administration	3.864	207	.8280	7.095		

* Insignificant
** Significant

Out of the 247 respondents, 141, or 57 per cent, held the doctorate and 106, or 43 per cent, held lesser degrees. In estimating the number of semester hours that could be taken comfortably, doctorates and non-doctorates were each totaled and averaged separately. The means, as seen in Table IX, were computed and revealed as 3.382 and 3.764 respectively, with an over-all average of 3.547.

Comparisons were also made between administrators and non-administrators to determine if there were differences in opinion about the number of semester hours full-time faculty members could take without adversely affecting college duties. Forty-three administrators responded to this item, their mean semester hour preference was 1.906. Non-administrators had a mean semester hour preference of 3.864, from 207 responses. The over-all mean for the 250 respondents was 3.528. (See Table IX.)

How Many Semester Hours Of Education Should Be Tuition Free?

TABLE X

FREE TUITION CORRELATIONS

	Mean	Number	Proportion	Variance - Estimated Population	Point Biserial r	.05 Level
Doctorate vs.	86.20	130	.5652	8383.9	-.0673	*
Non-Doctorate	89.83	100	.4347	8735.6		
Administration vs.	81.61	39	.1673	7956.2	-.1062	*
Non-Administration	89.21	194	.8326	8621.89		

* Insignificant

Eighty per cent of the 233 respondents maintained that all tuition should be free at university of employment and only 2 per cent indicated that no tuition should be free.

All responses to this question were converted to percentages in order to determine if there were any differences between opinions of administrators and non-administrators. Of the total responses, 39 were made by administrators and 194, or 83.2 per cent, were by non-administrators. Means were computed for each separately and it was found that administrators felt that 81.6 per cent of course work should be tuition free, while non-administrators felt that 89.2 per cent of course work for faculty members should be tuition free.

A coefficient of correlation was calculated as well as computations for the level of significance. Doctorates and non-doctorates were treated in like manner, and all were included in Table X.

If You Are Going To Keep Up-To-Date Professionally, Is It Possible To Do So At The University Where You Are Presently Employed? How?

One hundred seventy-nine, or 74.7 per cent, out of 261 people indicated that they could keep up-to-date at their place of employment. (The question was biased somewhat, allowing the respondent to vary his answer according to his interpretation of "keeping up-to-date.")

In the second part of the question, eight possibilities were listed for continuing education. By instruction, only respondents who answered "yes" to the first part of the question were to attempt the second part. Questionnaire recipients were further instructed to start with number 1 as most important and rank each item 1, 2, 3. . . . 8 in order of preference as a source of education for them. The categories were course work, current literature, via graduate students, conventions and conferences, seminars, field studies, on-going research, and other. There were 185 first choice responses. Of these, 94, or roughly 51 per cent, said current literature was the method they would use to keep up-to-date. Next was on-going research with 32 responses and thirdly, course work with 25 responses.

Combining the first four choices in each item there was a rank order of preferences for literature of 165; for conventions and conferences it was 130; research was 124; and for seminars it was 93.

On the other end, low rank was given to "field studies" and "via graduate students" as means for continuing education. Twenty-five respondents rated course work as first choice but for the most part it was not very high on the list as a desirable means to continue education. (See Table XI.)

TABLE XI

RANK ORDER OF CHOICES

1st Choice		2nd Choice	
Literature	94	Conferences	49
Research	32	Literature	37
Course Work	25	Research	31
Conferences	11	Seminars	21
Field Studies	9	Field Studies	18
Seminars	7	Course Work	16
Other	4	Graduate Students	9
Graduate Students	3	Other	--
Total	185	Total	181

3rd Choice		4th Choice	
Research	37	Conferences	35
Conferences	35	Seminars	34
Seminars	31	Research	24
Literature	23	Course Work	20
Field Studies	21	Graduate Students	20
Graduate Students	19	Field Studies	18
Course Work	10	Literature	11
Other	2	Other	3
Total	178	Total	165

Assuming That You Could Obtain Professional Education At Your Own Institution Equal To That Offered By Most Other Institutions, Would You Prefer To Study At Your Own Place of Employment Rather Than Go Elsewhere? Why?

"Yes" responses and "no" responses were almost equally divided--127 "yes" and 114 "no" answers. Of the 127 who said "yes," 43, or 34.1 per cent, gave "economics" as a reason for continuing education at their resident institution; 79, or 62.7 per cent, felt it was a matter of "convenience" for them to study at the resident institution; and only 3 respondents stated that they attended the home university because of quality of instruction. (See Table XII.)

A "no" answer meant an expressed preference or belief that college faculty members should attend another institution when obtaining professional education. Of the 114 "no" responses, 88, or 77 per cent, answered in substance, that in order to prevent "in-breeding" faculty members should not attend the resident institution.

A small number, 13 in all, indicated that it was unethical or improper to attend one's university of employment. (See Table XII for complete breakdown.)

What Are Your Feelings Toward Continuing Education for Full-Time Faculty or Equivalent at Place of Employment?

Two hundred sixty-one people completed "Feelings Toward Continuing Education." Ninety considered it vital, 65 thought it important, 76 thought it desirable, and the remaining 20 felt it was unimportant, undesirable, or worthless. There was some contamination of data because of a lack of definition for continuing education.

TABLE XII

REASONS FACULTY MEMBERS CHOSE AN INSTITUTION FOR THEIR CONTINUING EDUCATION

	Doctorate		Non-Doctorate		Administration		Non-Administration		Totals		Yes & No Responses Combined
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	
Economics	21		22		6		37		43	0	43
Convenience	39		40		9		70		79	0	79
New Ideas		56		32		18		70	0	88	88
Improper		4		9		2		11	0	13	13
Quality		4	3	3		1	3	6	3	7	10
Other		2	2	4	2	2		4	2	6	8
Totals	60	66	67	48	17	23	110	91	127	114	241

ANALYSIS

What Are The Maximum Number of Semester Hours You Feel You Could Comfortably Carry Without Adversely Affecting Your Full-Time College Duties?

Question A: Is there any difference between stated opinions of holders of Ph. D's (or equivalent) and non-holders of doctorates?

Null-hypothesis: There will be no significant difference in preferences between doctoral and non-doctoral faculty members in their opinion about the number of semester hours they could carry.

A negative correlation of -.0587 is denoted in Table IX which is insignificant at the .05 level and therefore the Null-hypothesis is sustained.

Question B: Is there any difference between stated opinions of administrators and non-administrators?

Null-hypothesis: There will be no significant difference in the opinion of administration vs. non-administration.

It can be seen from Table IX that a correlation of -.2308 is significant at the .05 level, therefore the Null-hypothesis is rejected.

How Many Semester Hours of Education At Your Institution of Employment Do You Feel Should Be Tuition Free to Full-Time Faculty or Administration?

Question A: Is there any difference between stated opinions of holders and non-holders of doctorates?

Null-hypothesis: There will be no significant difference between doctoral and non-doctoral faculty members in their opinion about the percentage of course work which should be tuition free.

A negative correlation of -.0673 is recorded in Table X which is insignificant at the .05 level and therefore the Null-hypothesis is sustained.

Question B: Is there any difference between stated opinions of administration and non-administration?

Null-hypothesis: There will be no significant difference in the opinion of administrators vs. non-administrators.

It could be seen from Table X that the correlation of -.1062 is insignificant at the .05 level and therefore the Null-hypothesis is accepted.

Time Compared To Semester Hours By Administrators and Non-Administrators.

Question A: Does the amount of time devoted to duties make any difference in the number of semester hours an administrator feels he can take?

Null-hypothesis: There will be no significant relationship between the number of hours reported for work and the number of semester hours respondents say they can take. For the administrative category it can be seen in Table XIII that a correlation of -.2432 is insignificant at the .05 level. Therefore the Null-hypothesis is retained.

Question B: Does the amount of time devoted to duties make any difference in the number of semester hours non-administrators feel they can take?

Null-hypothesis: There will be no significant relationship between the number of hours reported for work and the number of semester hours respondents say they can take. Table XIII has a correlation of -.1158 which is insignificant at the .05 level. The Null-hypothesis is retained.

TABLE XIII

CORRELATION OF TIME VS. SEMESTER HOURS

	Number	Sum X	Sum X SQ.	Sum Y	Sum Y SQ.	Sum XY	Correlation	.05 Level
Administrative	43	2403	149367	82	298	4227	-.2432	*
Non-Administrative	206	10353	441747	800	5364	39230	-.1158	*

* Insignificant

CHAPTER IV

PRESENTATION AND ANALYSIS OF INDUSTRIAL DATA

The purpose of this chapter was to present and analyze data collected from an industrial survey titled, "Continuing Education #2." Questions were treated just as they occurred in the opinionaire but near the end of the chapter statistical analysis was made between selected industrial items; also there was a section in which comparisons were made between selected data of the industrial and university questionnaires.

Of the 24 companies originally selected, only eight were able to participate. The sixteen which declined to participate did so because of company policy concerning release of employee names as explained in the "Limitations" of Chapter I of the present study.

Two hundred seventeen questionnaires were mailed to industrial employees. Out of these, 178, or 82.9 per cent, were returned after a follow-up letter. Two questionnaires could not be used because of insufficient information so the actual number of industrial questionnaires used in the study was 176, or 80.3 per cent. Some respondents did not complete every item on the questionnaire. This accounted for a varying number of total responses as reflected in the tables.

Unlike the university questionnaire, data were only partially computerized, ie. tabulations were made but no correlations. Fisher's t tests were done manually on selected items. The t formula used for testing a difference between uncorrelated means was:

$$t = \frac{M_1 - M_2}{\sqrt{\left(\frac{Ex^2{}_1 + Ex^2{}_2}{N_1 + N_2 - 2}\right)\left(\frac{N_1 + N_2}{N_1 \quad N_2}\right)}}$$

where M_1 and M_2 = means of the two samples; Ex_1^2, and Ex_2^2 = sums of squares in the two samples; N_1 and N_2 = numbers of cases in the two samples. To assure being right 95 per cent of the time, and to use standard statistical practice, a .05 confidence level for hypothesis testing was used.

What Is The Title Of Your Position?

Question 1 of the survey was designed to permit the present writer to determine the relative numbers of administrators and non-administrators. From 174 responses to Item 1, Title of Your Position, 101, or 58 per cent, were classified as administrators, while 73 were considered as non-administrators.

How Long Have You Been Employed With The Present Firm?

The length of time respondents were employed by the present firm varied from less than one year to as long as 36 years. The average length of employment was 8.15 years. The largest number of employees, 64 in all, had been with the present firm five years or less (see Table XIV). Of these, 25 had been with the company less than one year, but two, or 1.14 per cent, were "old-timers" with 31 to 36 years of service.

TABLE XIV

LENGTH OF SERVICE WITH FIRM

	Years							
	0-5	6-10	11-15	16-20	21-25	26-30	31-36	Totals
Number of Respondents	64	62	28	11	7	2	2	176
Percentages	36.37	35.23	15.91	6.26	3.98	1.14	1.14	100.03
Mean	8.15 years							

What Is The Highest Grade You Have Completed In School and What Is The Highest Academic Degree You Now Hold?

As in the University Questionnaire, Items 3 and 4 were each used to corroborate the other. There were 111 holders of bachelors' degrees, 18 masters' degrees, 4 doctorates, 31 high school graduates, and 11 with no academic degree or "other" reported from a total response of 175.

Are You Now Working On An Academic Degree And/Or Taking Schooling To Improve Yourself On The Job?

Twenty-seven, or 16 per cent, out of 168 employees who completed Item Five, said they were working on an advanced degree. Fifty-eight, or 33.6 per cent, out of a total of 173 who completed Item 6, indicated they were currently taking schooling to improve themselves on the job.

Items 5, 6, 9, 10, 11, and 12 from the questionnaire, together with responses, percentages, and totals were listed in Table XV and are self-explanatory.

If You Are Taking Schooling, What Per Cent Does The Company Pay For?

This question was dependent upon a positive response from Item 6. Respondents who answered "no" to Item 6 were not supposed to complete this item. However, judging from the large reponse, (74 in relation to only 58 who were supposed to answer) it became apparent that Item 7 did not do what it was designed to do. The present writer felt that there was no way to make it valid--for if Item 7 was compared with the totals of Items 5 and 6 (which were 27 and 58 respectively), there would be no way of sorting out those who were taking work toward a degree and those who were taking schooling to improve themselves on the job, and the per cent for which the company should pay. And again, the question could not stand alone, for to do so would be to overlook those employees who, properly following instructions, did not answer the question but who may have had definite feelings toward the amount the company should contribute.

How Many Non-Credit Courses Have You Participated In During The Last Three Years?

Out of 173 respondents, only 61 had participated in any non-credit courses from 1963 to 1966. Of these 29, or roughly 17 per cent, took only one course, while just one person, or .58 per cent, had participated in 10 non-credit courses in the same period (see Table XVI). The mean number of courses participated in by those 61 employees was 2.11.

TABLE XV

RESPONSES TO SELECTED ITEMS FROM THE INDUSTRIAL QUESTIONNAIRE

Item From Questionnaire	Yes Response	Per Cent	No Response	Per Cent	Total Response	Total Per Cent
5. Are you now working on an academic degree?	27	16.07	141	83.93	168	100
6. Are you now taking schooling to improve yourself on the job?	58	33.58	115	66.42	173	100
9. Have you, in the past three years, received training "in the factory" on company time?	112	63.27	57	36.73	169	100
10. Have you been given time off or other compensation for attending college, trade, or technical, or other schools outside the company in the last three years?	64	36.58	111	63.42	175	100
11. Does company policy encourage you to attend classes?	162	83.64	11	6.36	173	100
12. Have you ever received a pay increase for attending classes?	11	6.57	158	93.43	169	100

TABLE XVI

NON-CREDIT ADULT COURSE PARTICIPATION BY INDUSTRIAL EMPLOYEES

Number of Courses	Participants	Per Cent
0	112	64.74
1	29	16.76
2	17	9.83
3	8	4.62
4	3	1.73
5	0	0
6	1	0.58
7	2	1.16
8	0	0
9	0	0
10	1	0.58
Totals	173	100.00

Mean -- 2.11

TABLE XVII

PREFERRED METHOD FOR INDUSTRIAL EMPLOYEES TO CONTINUE EDUCATION

Method	Participants	Percentages
College	40	34.48
Current Literature	35	30.17
Conferences	24	20.69
On The Job Training	5	4.31
Conventions	4	3.45
Company Schools	4	3.45
Correspondence	2	1.73
Field Trips	1	.86
Seminars	1	.86
TOTALS	116	100.00

If You Are Going To Keep Up-To-Date In Your Field or Position, How Would You Do It?

Several suggestions were listed in the questionnaire pertaining to methods an industrial employee might use to continue his education (see questionnaire, "Continuing Education #2" in the appendix). The employee was instructed to write out the method(s) he preferred. Only first choice items, where they were discernible, were used. This meant that out of 176 responses, only 116 were usable for the first choice criterion. The methods preferred in descending order were: college, current literature, conferences, on the job training, conventions, correspondence courses, field trips, and seminars. From tabulations made in Table XVII, it can be seen that the two most preferred methods for continuing education were by "college" (34.48 per cent response) and reading "current literature" (30.17 per cent response). The two least mentioned were "field trips" and "seminars" with 0.86 per cent response for each.

Referring to Item 13 What Percentage Do You Feel The Company Should Pay For?

Sixty-nine per cent out of 161 industrial personnel stated that the company should pay for 100 per cent of the cost incurred for keeping up to date on developments in their field or position. Only 16, or 9.93 per cent, thought the company should pay none of the expense. Table XVIII contains the tabulations and percentage of respondents. On the average, employees felt the company should pay for 71.36 per cent of the costs.

TABLE XVIII

THE AMOUNT OF SCHOOLING EMPLOYEES THOUGHT COMPANIES SHOULD UNDERWRITE

Per Cent	Number of Respondents	Percentage of Respondents
0	16	9.94
10	1	.62
20	1	.62
30	2	1.24
40	0	0
50	37	22.98
60	6	3.72
70	10	6.21
80	12	7.45
90	7	4.35
100	69	42.85
TOTALS	161	99.98

Average -- 71.36 per cent

Time Factor

Questions 15 and 16 were included in the survey for the same reason comparable questions in the University Questionnaire had been included, to determine the amount of time employees devoted to job and community in relation to the maximum number of hours per week they thought possible to devote to continuing education.

Out of a total response of 175, 89, or 50.86 per cent, worked 40 hours per week. This was the largest block of respondents. But, as can be seen in Table XIX, another large number of personnel claimed they worked 50 hours per week. However, the average length of time worked was 45.7 hours per week.

TABLE XIX

HOURS PER WEEK INDUSTRIAL EMPLOYEES
DEVOTED TO JOB

	Hours					
	10	40	50	60	70	Totals
Number of Respondents	2	89	65	15	4	175
Percentage	1.14	50.86	37.14	8.57	2.29	100
Mean	45.7					

When the optional item (about church and civic activities) was added, the mean number of hours per week for 126 comparable items was 51.7. (See Table XX.)

TABLE XX

COMPARISONS OF INDUSTRY AND UNIVERSITY ON SELECTED ITEMS

	University	Industry
What are the maximum number of semester hours you feel you could comfortably carry without adversely affecting your full-time duties?	3.547	5.23
Percentage of courses university respondents thought should be tuition free.	87.77%	
Percentage of continuing education and training industrial respondents thought should be paid for by company.		71.36%
Time factor: The average work week.	52.6	51.7

What Are The Maximum Number Of Hours Per Week You Feel You Could Comfortably Devote To Continuing Education?

The number of "clock hours" rather than "semester hours" devoted to continuing education was requested in the questionnaire because it was felt that some industrial employees might not have a thorough acquaintance with the concept of semester hours--those who had never attended college for instance. Then, too, some type of training in industry does not lend itself to categorizing in terms of semester hours. So, to avoid having many interpretations of what is meant by semester hours, the present writer reasoned that recipients could easily and validly estimate the amount of time in "clock hours" devoted to continuing education.

This method would not yield a "clean cut" number of semester hours, but by rule-of-thumb (for every hour in class, 1½ are used in preparation)[1] these "clock hours" could be converted to semester hours; which in turn, could be compared with semester hours from the University Questionnaire.

The mean clock hours per week was 8.72 hours. When this number was converted to semester hours by the above rule-of-thumb method it became 5.23 semester hours that industrial employees felt they could comfortably devote to continuing education. As mentioned earlier, this is a "fuzzy" number but probably is a better estimate than interpreting 8.7 "clock hours" as 8.7 "semester hours." A breakdown in clock hours and converted semester hours, using the ratio of 1½ to 1, is shown in Table XXI.

ANALYSIS

What Are The Maximum Hours You Feel You Could Comfortably Devote To Continuing Education?

Is there any difference between the means of stated opinions of administrators and non-administrators?

Null-hypothesis: There will be no significant difference in preferences between administrators and non-administrators.

Fisher's *t* test for differences between uncorrelated means was used to determine the level of significance. The result was a *t* of 3.12

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[1] Harold A. Ellison, "How To Study Effectively: A Practical Handbook for Students," p. 1, 1934. (For each hour in the classroom, the student should devote 1½ hours of preparation.) See also: Walter Prank, *How To Study in College*. Boston: Houghton Mifflin Company, 1962, p. 5. (For each one hour in the classroom the student should devote 2 hours in preparation. Prank said this is a rough guess at best.)

TABLE XXI

POTENTIAL NUMBER OF HOURS INDUSTRIAL EMPLOYEES COULD DEVOTE TO CONTINUING EDUCATION

Clock Hours	Estimated Semester Hours (1½:1)	Participants	Percentage
0		5	2.94
1-6	.66-4	69	40.59
7-12	4.66-8	65	38.24
13-18	8.66-12	17	9.94
19-24	12.66-16	10	5.89
25-30	16.66-20	3	1.77
31-36	20.66-24	1	.59
TOTALS		170	99.96

which was significant at the .05 level. The Null-hypothesis was therefore rejected, indicating that non-administrators in industry felt that they could devote significantly longer time to continuing education than could administrators.

The time factor was compared with administration versus non-administration. The means of 52.58 and 51.26 respectively were so close together that it was not necessary to calculate a Fisher's t test. Obviously the differences were insignificant.

Another statistic of obvious insignificance was the cost percentage for continuing education that employees thought companies should pay for as reported by administration versus non-administration. This was 73 per cent and 73.5 per cent respectively. There is a noted discrepancy between figures shown here and that for the over-all average of 71.36 per cent reported earlier on Page 69 of this study. This small difference can be accounted for by the fact that only 154 responses could be used in establishing the higher percentages of 73 and 73.5, whereas 161 responses were used in obtaining the "over-all" average of 71.36 per cent.

UNIVERSITY COMPARED TO INDUSTRY

1. Are you now working toward a degree?

Question: Is there any difference between the percentage of university responses versus industry responses in the number of personnel working on advanced degrees?

Null-hypothesis: There will be no significant difference for university versus industrial personnel who are pursuing graduate degrees.

In Table XXII are listed data used in computing a Fisher t of 2.59 which was significant at the .05 level. The Null-hypothesis was therefore rejected. Thus, significantly more faculty members were pursuing advanced degrees than comparable industrial employees.

TABLE XXII

WORKING TOWARD A DEGREE UNIVERSITY VS. INDUSTRY

	Total Number Respondents	Number Working On Higher Degrees	Percentage	t Score
University	270	49	18.66	2.59*
Industry	168	27	16.07	

* Significant

2. What are the maximum number of hours per week you feel you could comfortably devote to continuing education?

Question: Is there any difference between the means of university and industry personnel on the maximum number of semester hours each felt capable of carrying?

Null-hypothesis: There will be no significant difference between means of university and industry personnel on the maximum number of semester hours each felt capable of carrying.

Assuming an industrial mean of 5.23 (note: this was not a firm figure but was probably close), a Fisher's t was computed to be 2.36, which was significant at the .05 level and so the Null-hypothesis was rejected as stated. (See Table XX.) This is an indication that, within the limitations noted above, industrial personnel felt that they could devote significantly more time to continuing education than could university personnel.

3. What is the average amount of time university and industrial employees each devote to job and community?

University personnel devote an average of 52.6 hours per week. Industrial employees devote almost the same amount--51.7 hours per week. By inspection it can be seen that there is no significant difference in the hours per week category.

4. How many non-credit adult courses have you participated in during the last 3 years?

Question: Is there any difference between university means and industrial means pertaining to non-credit adult courses taken in the last 3 years?

Null-hypothesis: There will be no significant difference between university means and industry means pertaining to non-credit adult courses taken in the last 3 years.

The Fisher's t test was 2.11 which is significant at the .05 level of confidence. Therefore, the Null-hypothesis was rejected in favor of university personnel taking significantly more non-credit adult courses than industrial employees.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of the study, broadly stated, was to determine the opinions of faculty members and administrators regarding self-improvement via course load and concession. More specifically, the objectives were to determine how opinions of university administrators correlated with university non-administrators and how faculty members who held doctorates related to those without doctorates, and to make some comparisons with selected industrial employees in the same geographical region.

Sample

The study involved 268 faculty members (including administrators) from seven universities in seven western states of the United States. The study also involved 176 industrial personnel from eight companies in the same geographical region.

Names of university people were randomly selected from up-to-date university bulletins and those in industry were obtained through personnel directors whose firms had been selected from the Classified Section of The Denver Post. The criteria for company selection were: advertisement appearing three or more times in the paper between April 10, 1966 and June 5, 1966 and that the firm advertising for help was located within one of the states in the study. Then the personnel director from each of 24 firms was contacted by mail in an effort to find those companies which would be willing to cooperate in supplying names of employees who were in positions of management, or were scientists, engineers, or highly skilled technicians. Only eight companies were able to cooperate in the study. After securing lists of names in the requested categories, a questionnaire was mailed to a sampling of those employees.*

Instruments

Two separate opinionaires were devised, one for universities and the other for industry. They were structured differently for ease of response and quick understanding by personnel from each type of institution. But essentially, the same kinds of information were sought from each.

Results were key punched and computerized. The University "print-out" yielded data on totals, percentages, means, standard deviations, standard errors, and point-biserial correlations. Tests of significance were made by using correlation tables. The Industrial "print-out" yielded only totals and percentages so means had to be computed manually. A Fisher's t test for uncorrelated means was used to determine the significance at the .05 level.

Findings--University Faculty Members

The following findings were derived from items of the university instrument.

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*See Limitations, p. 12, this study.

1. The majority of faculty members who responded held doctors' degrees (56 per cent). Approximately 31 per cent held masters' degrees.
2. Over 50 per cent of faculty members earned latest degree since 1956.
3. Nearly 17 per cent of faculty members were in some sort of administrative position.
4. Roughly, 18 per cent of faculty members were working on higher academic degrees. Nearly half of those who did not possess the doctorate were working toward an advanced degree.
5. Half of those pursuing an advanced degree were doing so at university of employment.
6. Almost one-fourth took credit courses for reasons other than an advanced degree.
7. Less than 25 per cent had been enrolled for non-credit adult courses within the last three years.
8. The average time devoted to job and community was 52.6 hours per week. Administrators devoted an average of 55.58 and non-administrators devoted 50.20 hours per week.
9. Roughly one-fourth said they could not take any courses at all. The average that all respondents thought they could take was 3.5 semester hours without adversely affecting full-time responsibilities.
10. About 80 per cent of the respondents felt that all tuition should be free to faculty.

11. Administrators thought that about 80 per cent of course work should be tuition free. On the other hand, non-administrators felt that almost 90 per cent of course work should be tuition free.
12. Almost 75 per cent said that they could "keep up-to-date" professionally at home university (somewhat unreliable statistic).
13. Slightly over 50 per cent said that current literature was the method by which they preferred to keep up to date.
14. A very rough 14 per cent gave first choice to course work as a method of keeping up to date.
15. About half of the respondents preferred to study at home university and the other half preferred to attend another institution.
16. Over 60 per cent of those who said they preferred studying at place of employment did so because of convenience.
17. Seventy-seven per cent of those who preferred to study at another university gave "new ideas" as their major reason for attending elsewhere.
18. Almost 90 per cent felt that continuing education was vital, important, or desirable.

University Analysis

Items for correlation were selected from the findings of the University Questionnaire. The results were listed below:

1. Administrators and non-administrators were essentially in agreement that the number of semester hours which could be carried comfortably by faculty members without adversely affecting full-time duties should, on the average, be limited to four or less.
2. Holders of doctors' degrees and non-doctorates alike were in agreement that the amount of course work comfortably carried by full-time faculty members on the average, should be limited to four or less semester hours per semester.
3. Administrators and non-administrators, doctorates and non-doctorates generally felt that between 80 and 90 per cent of course work should be tuition free.
4. More semester hours credit could be taken by non-administrators than by administrators, without adversely affecting their full-time duties.

Findings--Industrial

Data from the second instrument, that for industry, are summarized below:

1. Over half of the respondents were administrators.
2. The average length of employment with the present firm was more than eight years.
3. Almost 92 per cent were holders of college degrees--mostly the bachelor's degree.
4. Roughly 16 per cent were working toward graduate degrees.

5. Roughly one-third were taking schooling directly connected with improving themselves on the job.
6. About 63 per cent had received training using company facilities and time in the last three years.
7. Only 36 per cent said they had received compensation for attending other schools outside the company in the last three years.
8. Only 6 per cent said they had ever received pay increases as a result of attending classes.
9. As much as 35 per cent had participated in non-credit adult education courses in the last three years.
10. The most popular methods for keeping up to date were attending college and current literature. (64 per cent together)
11. The average amount of continuing education which employees thought companies should pay for was 71 per cent.
12. The average time devoted to job and community was 51.7 hours per week.

Industrial Analysis

The following summary incorporated findings of selected correlations within the Industrial Questionnaire.

1. The average number of clock hours employees felt they could devote to continuing education without adversely affecting full-time duties was 8.7 hours per week.

2. Non-administrators in industry were able to devote significantly more time to continuing education than administrators even though there was no significant difference between the means of work week.
3. Administrators in industry had been with the company considerably longer than non-administrators.
4. Both administrators and non-administrators thought the company should pay about three-fourths of the cost of continuing education.

Comparison of Industry and University Responses

Selected items from both questionnaires were correlated and the results summarized below:

1. A higher percentage of university faculty members than industry employees were working toward advanced degrees.
2. University and industrial personnel each devote about the same amount of time to job and community.
3. More industrial people were engaged in non-credit adult education programs than university people.
4. There was a significant difference between university and industry personnel on the number of semester hours they felt could be comfortably taken.

Conclusions

The following conclusions appeared warranted on the basis of this study:

1. Generally, the maximum number of semester hours faculty members should pursue is 3.5 per semester.
2. The fact that a faculty member is in an administrative position does not generally bias his opinions about course load.
3. Generally, industrial and university administrators can not devote as much time to continuing education as non-administrators are able to.
4. A faculty member holding a doctor's degree generally is not biased in his opinion about course load capability.
5. The taking of course work at the home university is not a popular method of continuing education for university faculty.
6. Reading current literature, research, and conferences are the methods by which faculty members prefer to continue education.
7. Convenience and economics play a very big part when faculty members choose to study for an advanced degree.
8. Generally, industry compares favorably with universities in educational benefits for employees, especially when industry's primary concern is not education.
9. The attitude of disdain held by many faculty members toward "course taking" at their place of employment appeared warranted in some cases, but for the most part, seemed to the present writer to be prejudiced.

Recommendations

The following recommendations appeared warranted on the basis of this study:

1. Industry generally is systematic and positive toward education and retraining of its personnel, with strong encouragement coming from the "top" in the form of pay increases, free tuition, or reimbursement, time off, greater prestige, and greater responsibilities.

   Universities, on the other hand, are not so systematic or positive. Faculty members, though left alone to pursue an academic career, are expected to grow professionally, that is to seek higher degrees, to do post-doctoral study; and often must educate themselves at other universities and through conventions, conferences, research, field studies, and the like--most of which are inconvenient and expensive for them.

   Under these circumstances, it would seem to the present writer that the faculty member's "burden" could be made lighter if the full resources of universities were opened to resident faculty members to pursue lifelong learning for degree purposes, or for pleasure, or for any other educational reason. Moreover, if certain needed educational pursuits were not available at the resident university, it would be well to compensate the faculty member in his attendance elsewhere.

2. Universities should allow faculty members the privilege of free tuition for courses, at least the first four semester hours.

3. Faculty members should be permitted to take up to four units per semester. Anything beyond four hours should be carefully weighed against other factors.

4. Special consideration should be given to faculty members trying to complete graduate degrees. This might be in the form of free tuition and time as well as reduction of faculty work load.

5. A more in-depth study should profitably be made regarding the reasons faculty members hold course work in such low esteem. Such a study might seek answers to the questions: Why should teachers expect students to be eager course takers, when teachers themselves are somewhat less than enthusiastic about taking course work? Other questions might be: Is it because they do not like to "sample their own wares?" Is it because they have "arrived?" Is it because they're just plain tired of sitting in a classroom? Do they feel that they are too pressed for time? Is it unethical?

6. Since one-half of all those faculty members who pursue advanced degrees do so at their university of employment, it seems justifiable to suggest that the reasons for it should be studied more thoroughly. For instance, some answers to the following questions should be sought: How long do faculty members remain with the institution after completing their degree programs? What is the length of time required for degree completion? What is the work load? What are the dollar costs to members and to the university? And what are faculty members' salaries before and after securing the degree or completing a program?

SELECTED REFERENCES

1. American Council on Education, "College Teaching as a Career," Committee on College Teaching, 1958, All.

2. American Management, "Financing Tuition Plans," November, 1964.

3. Arnold, W. J., Management Editor, "Trainees Favor On-The-Job," Business Week, p. 60, June 29, 1963.

4. _____, Management Editor, "Sending a Plant Back to School," Business Week, pp. 65-66, November 28, 1964.

5. Astin, Alexander W. and Calvin B. T. Lee, "Current Practices in the Evaluation and Training of College Teachers," The Education Record, pp. 361-375, Summer, 1966.

6. Becker, Harry A., "Protecting the Investment in Faculty," Journal of Educational Sociology, 26:199-211, January, 1953.

7. Blegen, Theodore C. and Russell M. Cooper, Editors, The Preparation of College Teachers, American Council on Education Studies, Series I, No. 42. Washington, D. C.: The Council, 1950.

8. Business Management, "Should You Buy Your Employees a College Education," pp. 53-56, November, 1964.

9. California, University of, Handbook for Faculty Members of the University of California, February, 1963, pp. 55-57.

10. Connecticut, University of, Faculty Handbook, 1965, All.

11. Caplow, Theodore and Reece J. McGee, The Academic Marketplace. New York: Basic Books, 1958.

12. Carmichael, Oliver C., "The Teacher and Educational Results," Carnegie Foundation for the Advancement of Teaching, 41st Annual Report. 1945-1946, pp. 3-11.

13. Case, Harry W., "Report of Survey Conducted by Committee on Recognition and Incentives for Good Teaching," Journal of Engineering Education, 46:81-85, September, 1955.

14. Chamberlain, Neil W., "The Corporation as a College," The Atlantic Monthly, pp. 102-104, June, 1965.

15. Cheydleur, Frederic D., "Judging Teachers of Basic French Courses by Objective Means at the University of Wisconsin, 1919-1943," Journal of Educational Research, 39:161-192, November, 1945.

16. Clark, Harold F. and Harold S. Sloan, Classrooms in the Factories, Institute of Research, Fairleigh Dickinson University. New York: University Press, 1960, pp. 13-18.

17. Congress, 75th, Public--No. 308, Chapter 663, 1st Session, H. R. 7274.

18. Cooper, Russell M., "A Graduate Program for Experienced Teachers," Educational Record, 34:275-277, July, 1953.

19. Eckert, Ruth E., John E. Stecklein, and H. Bradley Sagen, "College Faculty Members View Their Jobs," Journal of American Association of University Professors, 45:513-528, Winter, 1959.

20. ______, "Faculty View on the Recruitment of College Teachers," Journal of Higher Education, 31:244-251, No. 5, May, 1960.

21. Eels, Walter C. and Ernest V. Hollis, "Sabbatical Leave in American Higher Education," Bulletin No. 17, OE-53016, U. S. Department of Health, Education, and Welfare, 1962, pp. 18-20.

22. Ellis, Elmer, "In-Service Training of College Teachers," Transactions and Proceedings, National Association of State Universities. Washington, D. C.: The Association, 1949, pp. 46-52.

23. Ellison, Harold A., "How to Study Effectively: A Practical Handbook for Students," 1934, p. 1.

24. Engineer and His Profession, The, "Teach Practical Engineering, S.A.E. Panelists Tell Educators," p. 122, September, 1966.

25. Estrin, Herman A. and Delmer M. Good, Editors, College and University Teaching. Dubuque, Iowa: William C. Brown Company, 1964, pp. 604-605.

26. Gardner, John W., Chairman, The Pursuit of Excellence: Education and The Future of America, Panel Report V of the Special Studies Project, Rockefeller Brothers Fund. New York: Doubleday and Company, 1958.

27. Gentry, Dwight L., "Changing Patterns of Business Education," Personnel Journal, 44:184-186, April, 1965.

28. Gordon, R. A. and J. E. Howell, Higher Education for Business. New York: Columbia University Press, 1959.

29. Guilford, J. P., Fundamental Statistics in Psychology and Education. New York: McGraw-Hill Book Company, 1965, pp. 183-184.

30. Giusti, Joseph G., "Do Teachers for Professional Schools Require Training in Teaching," Journal of Higher Education, 35:288-289, 1964.

31. Hatch, Winslow R. and Ann Bennet, "Effectiveness in Teaching," New Dimensions in Higher Education, No. 2. Washington, D. C.: U. S. Department of Health, Education, and Welfare, Office of Education, Government Printing Office, 1960.

32. Heald, Henry T. and Donald H. Morrison, Chairmen, Better Utilization of College Teaching Resources. New York: Fund for the Advancement of Education, October, 1956.

33. Herman, Susan J., "Business Education: Does It Serve Business' Needs," Administrative Management, p. 20, June, 1966.

34. Indiana University, Faculty Handbook, 1962, p. 35.

35. Jensen, Gale, A. S. Liveright, and Hallenbeck, Editors, Adult Education, Outlines of an Emerging Field of University Study, Adult Education Association of the U. S. A., 1964, p. 14.

36. Jones, E. M. Hugh-, Editor, The Push-Button World, Automation Today. Norman, Oklahoma: University of Oklahoma Press, 1965, p. 125.

37. Justman, Joseph and Walter H. Mais, College Teaching, Its Practices and Its Potential. New York: Harper and Brothers, 1958, p. 52.

38. Kaplan, Abbott J., Editor, "Trends and Tangents," Journal of Higher Education, 35:289-291, 1964.

39. Kelley, Fred J., Toward Better College Teaching, Bulletin No. 13, Office of Education, Federal Security Agency, 1950, 71 pp.

40. _____, Improving College Instruction, American Council on Education Studies, Series I, No. 48. Washington, D. C., 1951.

41. Kelley, William Frederick, "Twenty Studies of In-Service Education of College Faculty and the Procedures Most Recommended," Educational Administration and Supervision, 38:351-358, October, 1950.

42. Klapper, Paul, The Preparation of College Teachers, Theodore C. Blegen and Russell M. Cooper, Editors. Washington: American Council on Education, 1950, pp. 40-54.

43. Maslow, A. H. and John E. Zimmerman, "College Teaching Ability, Scholarship Activity, and Personality," Journal of Educational Psychology, 47:185-189, March, 1956.

44. Mitchel, Wesley C., *The Encyclopaedia of the Social Sciences*. New York: The Maxmillan Company, 3:109, 1930.

45. Morton, Richard K., "The Road to Learning," *Improving College and University Teaching*, 12:197, Autumn, 1964.

46. Mosier, Earl E., "Summary of an Investigation of a College Teacher Supply and Demand," *Journal of Teacher Education*, 1:199-203, September, 1950.

47. Moulton, Harold, *Income and Economic Progress*. Washington, D. C.: Brookings Institution, 1935, pp. 17-21.

48. National Education Association, Research Division, "Instructional Staff Practices and Policies in Degree-Granting Institutions, 1953-1954," *NEA Research Bulletin*, 32:159-214, December, 1954. (Summarized in *NEA Journal*, 43:567-568, December, 1954.)

49. National Industrial Conference, *Studies in Personnel Policy*, No. 107, p. 3.

50. Newcomer, Mable, *The Big Business Executive, the Factors That Made Him*. New York: Columbia University Press, 1955, p. 66.

51. Neuberger, L. Mark, "In-Service Improvement of Teaching," *Improving College and University Teaching*, 7:48-51, Winter, 1959.

52. Norris, Robert Bayless, "In-Service Techniques for Improving College Instruction," *Educational Administration and Supervision*, 39: 370-374, October, 1953.

53. Noyes, Harold J. and George Batterson, "Analysis of In-Service Training Questionnaire," *Journal of Dental Education*, 20:56-65, January, 1956.

54. Patterson, William and Marion Hedges, *Educating for Industry Through Apprenticeship*. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1947, pp. 15-16.

55. Pierson, Frank C., Editor, *The Education of American Businessmen*. New York: McGraw-Hill Book Company, Inc., 1959.

56. Pitzele, Merlyn, Labor Editor, "The Skilled Labor Force Problem, A Growing Problem," *Business Week*, p. 64, August 18, 1956.

57. Poor, Russell S. and Charles S. Schauer, "What are the Responsibilities of Teachers of Undergraduates for Research?," *Current Issues in Higher Education*, Association for Higher Education. *Proceedings of the Ninth Annual Conference on Higher Education*, Washington, D. C.: pp. 115-122, 1954.

58. Prank, Walter, How To Study in College. Boston: Houghton Mifflin Company, 1962, p. 5.

59. President's Commission on Education Beyond the High School, Second Report to the President. Washington, D. C.: Government Printing Office, July, 1957.

60. Reed, Anna Y. and Others, The Effective and the Ineffective College Teacher: A Study Made for the National Personnel Service, Inc. New York: American Book Company, 1935.

61. Ruhe, C. H. William, "Continuing Education Course for Physicians," The Journal of The American Medical Association, 193:447-534, August 9, 1965.

62. Science Research Associates, Inc., College Teachers Occupational Briefs on America's Major Job Fields, 1962, All.

63. Sheldon, Oliver, The Encyclopaedia of the Social Sciences. New York: The Maxmillan Company, 10:79, 1930.

64. Stecklein, John E. and Ruth E. Eckert, An Exploratory Study of Factors Influencing the Choice of College Teaching as a Career. Minneapolis: University of Minnesota, Bureau of Institutional Research, January, 1958.

65. Stripling, Robert O., "Problems of New Members of the College Faculty," Clearing House, 27:3560362, February, 1953.

66. Torpy, William G., "Company Investment in Continuing Education for Scientists and Engineers," Educational Record, 45:408-413, Fall, 1964.

67. U. S. Department of Commerce, Statistical Abstract of the United States, 77th Ann. Ed. Washington, D. C.: 1956, p. 13L.

68. U. S. Department of Labor, Apprenticeship, Past and Present, 3rd Edition. Washington, D. C.: Bureau of Apprenticeship, 1955, pp. 29-30.

69. Van Doren, Mark, Liberal Education. Beacon, 1949, pp. 175-176.

70. Weclew, T. V., "Continuing Education Meeting the Practitioner's Need," Journal of American Dental Association, 72:138-140, May, 1966.

71. Young, Raymond, "Educational Research in Colleges and Universities," Journal of Higher Education, p. 33, June, 1958.

APPENDIX

THE UNIVERSITY OF WYOMING
COLLEGE OF EDUCATION
LARAMIE, WYOMING 82071

COVER LETTER--UNIVERSITY

"HIGHER EDUCATIONAL INSTITUTIONS ARE ASSIGNING ARBITRARY AND UNREALISTIC LIMITATIONS TO FACULTY MEMBERS ON THE AMOUNT OF COURSE LOAD THEY MAY CARRY IN PURSUIT OF THEIR OWN PERSONAL GROWTH WHILE ENGAGED IN FULL-TIME EMPLOYMENT RESPONSIBILITIES?" This is an hypothesis assumed for a doctoral study at the University of Wyoming.

The objectives of this study are:

1. Learn what a sampling of faculty members from the seven intermountain states consider necessary to their continuing education.
2. To secure a selected sampling of business and industry employees in the same region so as to determine what they consider necessary for their continuing education.
3. Find out from each selected university, business, and industrial establishment what their present practices are regarding continuing education.
4. Determine the relationship (if there is any) between business and university in continuing education. Items for consideration would be cost, time off, incentives, type of education, etc.
5. Finally, attempt to establish guidelines for course loads and concessions for faculty and administration based upon data collected.

Will you please take a few minutes to complete the enclosed SHORT form and return it to me in the envelope provided? This form is structured for your ease in completion, but if you would like to make any additional remarks or suggestions please feel free to do so.

It will not be necessary to sign your name.

Thank you.

Very truly yours,

Bill J. Brisco

BJB:jdb
Enc. 2

THE UNIVERSITY OF WYOMING
COLLEGE OF EDUCATION
LARAMIE, WYOMING 82071

UNIVERSITY FOLLOW-UP LETTER

Recently you were mailed a questionnaire soliciting information that pertained to your opinion of continuing education for faculty and administration on the university level.

I should like to include your response in order to obtain as complete a sampling for this study as possible. To save you any more inconvenience I am enclosing another copy of the questionnaire together with a reply envelope.

Thank you for your cooperation.

Sincerely yours,

Bill J. Brisco

BJB:jdb

Enc. 2

CONTINUING EDUCATION

1. What is the highest academic degree you now hold? 1.____

2. Date obtained last degree? 2.____

3. What is your present position? 3.____

4. If you are faculty, what is your current academic rank? 4.____

5. Are you now working on a degree at the institution at which you are presently employed? 5.____

6. Are you presently working toward a graduate degree? 6.____
   a) Where? . . . . 6a.___
   b) In how many semester hours are you presently enrolled? 6b.___

7. How many semester hours have you carried for credit as a student in the last three years? 7.____

8. How many non-credit adult courses have you participated in as a student in the last three years? (Such as photography, ceramics, art, etc.) 8.____

9. On the average how many hours per week do you devote to the following:
   a) any combination of teaching, research, administration (including preparation and advising but NOT committee meetings)? . . . . 9a.___
   b) all committee meetings associated with your position (list professional organizations separately below) . . . . 9b.___
   c) all professional organizations (include travel time, correspondence, meetings, etc.)? . . . . 9c.___

10. As part of the total time factor, please estimate the time per week you devote to church and civic activities. (Optional) 10.____

11. What are the maximum number of semester hours you feel you could comfortably carry without adversely affecting your full-time college duties? (Assume all courses are equal in demand on your time.) 11.____

12. How many semester hours of education at your institution of employment do you feel should be tuition free to full-time faculty or administration--all, 3/4, 1/2, 1/4, other? 12.____

13. If you're going to keep up-to-date professionally is it possible for you to do so at the university where you are presently employed? (yes or no) 13.____

a) If "Yes," how would you do it? (starting with 1 as most important, rank 1, 2, 3. . .8 in order of importance as source of education for you)

Course work . . . . ____
Current literature . . . . ____
Via graduate students . . . . ____
Conventions and conferences . . . . ____
Seminars . . . . ____
Field studies (actual on site inspection or participation) . . . . ____
On-going research . . . . ____
Other . . . . ____

b) If you answered "No" to No. 13, would you attend other higher institutions to keep up-to-date professionally? . . . . ____

14. Assuming that you could obtain professional education at your own institution equal to that offered by most other institutions, would you prefer to study at your own place of employment rather than go elsewhere? 14.____

WHY?____

15. What are your feelings toward continuing education for full-time faculty or equivalent at place of employment? (Check just one location along continuum.)

VITAL IMPORTANT DESIRABLE UNIMPORTANT UNDESIRABLE WORTHLESS

16. Thank you, please return in enclosed Wyoming envelope.

THE UNIVERSITY OF WYOMING
COLLEGE OF EDUCATION
LARAMIE, WYOMING 82071

COVER LETTER--INDUSTRIAL PERSONNEL DIRECTORS

Dear Sir:

As part of a research project at the University of Wyoming a study is being conducted to determine opinion about continuing education for selected personnel of business and industrial establishments in the Rocky Mountain Region. A parallel study of randomly selected university personnel in the same geographical region is already in progress. The results from each of these studies will be correlated on several criteria, and subsequently will form the basis for a research study in adult education.

As Personnel Director of ______________________________ you are in a position to aid in this worthwhile study by furnishing the names of managers, scientists, engineers, and highly trained technical personnel in your firm. These employees will then be mailed a copy of the research questionnaire (a preliminary ditto copy is enclosed). The names that you supply will not be used for any purpose other than securing opinions regarding continuing education, after which they will be destroyed. No names will be published--only the name of your firm in acknowledgement of its contribution (and not in any statistical or analytical way).

The type of personnel we are interested in surveying range in salary and/or position from that of a department foreman, up through plant manager or company president at your present location.

We appreciate your efforts in this endeavor and look forward to your reply.

Sincerely yours,

Bill J. Brisco
Graduate Assistant

BJB:jdb
Enc. 2

P.S.
It is not necessary for you to fill out the enclosed questionnaire nor return it, but we do solicit your suggestions and criticisms for improving it.

THE UNIVERSITY OF WYOMING
COLLEGE OF EDUCATION
LARAMIE, WYOMING 82071

FOLLOW--UP LETTER--INDUSTRIAL PERSONNEL DIRECTORS

Dear Sir:

On 22 June 1966 we wrote to you requesting the names of managers, scientists, engineers, and highly trained technical personnel from your firm for research purposes.

You probably recall that the study being conducted is designed to compare industrial employees with their counter-parts in universities on the vital implications for continuing education. You may further recall in our original letter, we stated that these names would be destroyed immediately after the survey (actually they are to be used only to insure a uniform criterion of response. The names themselves have no significance--only to follow-up on respondents.)

We realize fully how busy you are and that this request is an imposition on your time, but the first phase, that of university personnel, is nearly complete and needs primarily to be compared with industrial personnel--which only you can supply. Therefore, we urge your early cooperation that this project might move forward.

For your convenience, a Wyoming envelope is enclosed together with another dittoed sample of the questionnaire (questionnaire need not be returned as we are interested only in securing names of the above classified personnel so that this questionnaire might be mailed to them.)

Thank you for your consideration and cooperation.

Sincerely yours,

Bill J. Brisco
Graduate Assistant

Glenn Jensen, Ed. D.
Head, Department of Adult Education
and Instructional Services

BJB:jdb
Enc.

THE UNIVERSITY OF WYOMING
COLLEGE OF EDUCATION
LARAMIE, WYOMING 82071

COVER LETTER --INDUSTRY

A study is being conducted at the University of Wyoming to determine opinion about continuing education for selected personnel of business and industrial establishments in the Rocky Mountain region. A parallel study of randomly selected university personnel in the same geographical region is nearly complete. The results from each of these studies will be correlated on several criteria, and subsequently will form the basis for a research study in adult education.

Some of the objectives are:

1. Learn what a sampling of faculty members from the seven intermountain states consider necessary to their continuing education.

2. To secure a selected sampling of business and industry employees in the same region so as to determine what they consider necessary for their continuing education.

3. Find out from each selected university, business, and industrial establishment what their present practices are regarding continuing education.

4. Determine the relationship (if there is any) between business and university in continuing education. Items for consideration would be cost, time off, incentives, type of education, etc.

Will you please take a few minutes to complete the enclosed SHORT form and return it to me in the envelope provided? This form is structured for your ease in completion, but if you would like to make any additional remarks or suggestions please feel free to do so.

It will not be necessary to sign your name. Thank you.

Sincerely yours,

Bill J. Brisco
Graduate Assistant

BJB:jdb
Enc. 2

THE UNIVERSITY OF WYOMING
COLLEGE OF EDUCATION
LARAMIE, WYOMING 82071

FOLLOW-UP LETTER TO INDUSTRY

Dear Sir:

Recently you were mailed a questionnaire soliciting information that pertained to your opinion of continuing education for faculty and administration on the university level.

I should like to include your response in order to obtain as complete a sampling for this study as possible. To save you any more inconvenience I am enclosing another copy of the questionnaire together with a reply envelope.

Thank you for your cooperation.

Sincerely yours,

Bill J. Brisco

BJB:jdb

Enc. 2

THE UNIVERSITY OF WYOMING
COLLEGE OF EDUCATION
LARAMIE, WYOMING 82071

2nd FOLLOW-UP LETTER--INDUSTRY

Dear Sir:

Early in August you were mailed a questionnaire soliciting information that pertained to your opinion of continuing education for selected personnel in business and industrial establishments.

We should like to include your response in order to obtain as complete a sampling for this study as possible. To save you any more inconvenience we are enclosing another copy of the questionnaire together with a reply envelope.

Thank you for your cooperation.

Sincerely yours,

Bill J. Brisco

BJB:jdb
Enc. 2

P. S.
Please be sure to use the return envelope to expedite the study. Thank you.

CONTINUING EDUCATION* #2

1. What is the title of your position with your present employer? 1.____

2. How long have you been employed by the present firm? 2.____

3. What is the highest grade you have completed in school? 3.____

4. What is the highest academic degree you now hold? 4.____

5. Are you now working on an academic degree? 5.____

6. Are you now taking schooling to improve yourself on the job? 6.____

7. If so, what per cent does the company pay for? 7.____

8. How many non-credit adult courses have you participated in during the last three years (such as photography, music, art, etc.)? 8.____

9. Have you, in the past three years, received training "in the factory" on company time? 9.____

10. Have you been given time off or other compensation for attending college, trade, technical, or other schools outside the company in the last three years? 10.____

11. Does company policy encourage you to attend classes? 11.____

12. Have you ever received a pay increase for attending classes? 12.____

13. If you are going to keep up-to-date on developments in your field or position, how would you do it? Attend trade school, college, conferences, conventions, company schools; through on-the-job training, correspondence courses, reading current literature, etc. (Feel free to list more than one if necessary.) 13.____

14. Referring to item 13, what percentage do you feel the company should pay for? 14.____

15. How many hours per week do you devote to your job (include any office work you might take home, but not travel time to and from work.) 15.____

CONTINUING EDUCATION* #2 (Continued)

16. As part of the over-all time factor, please estimate the time per week you devote to church and civic activities. (OPTIONAL) 16.____

17. What are the maximum number of hours per week you feel you could comfortably devote to continuing education* (formal or informal) without adversely affecting your full-time employment duties? 17.____

18. What are your feelings toward continuing education* (formal or informal) in your present position? (Check just one location along the continuum.)

VITAL IMPORTANT DESIRABLE UNDESIRABLE UNIMPORTANT WORTHLESS

19. Thank you. Please return in the enclosed Wyoming envelope.

*As used here, continuing education means personal improvement over a lifetime. It means improvement of technical competencies for your job as well as cultural, social, physical, and recreational growth.

PERSONNEL DIRECTORS--UNIVERSITIES

Mr. Bill J. Brisco
O. E. Fellow
U. S. Office of Education
ROB #3 - Room 5909
7th & D Streets SW
Washington, D. C. 20202
February 6, 1967

Personnel Director
________ University
Denver, Colorado

Dear Sir:

We are conducting a survey on "limited program of studies" and "fee concessions" for full-time faculty and administration at several western universities.

It would help us if we could learn the current policies in these areas at __________ University. Would you please respond to the questions on the attached sheet and return in the enclosed envelope?

We appreciate your taking the time to provide this very helpful information.

Sincerely yours,

Bill J. Brisco
O. E. Fellow

BJB:jdb
Enc.

PERSONNEL DIRECTORS--UNIVERSITIES

1. Quote your current policy on study privileges for faculty and administration. This would include the maximum number of credit hours permitted and whether registration is at regular rates, reduced rates, or at no cost to the employee.

2. How many faculty and administrative members were enrolled in classes at resident university in the fall semester or quarter of 1966? (If information for this period is not readily available, then an earlier semester or quarter would do.)

ERIC Clearinghouse
MAR 2 0 1969
on Adult Education